

FIG. 1

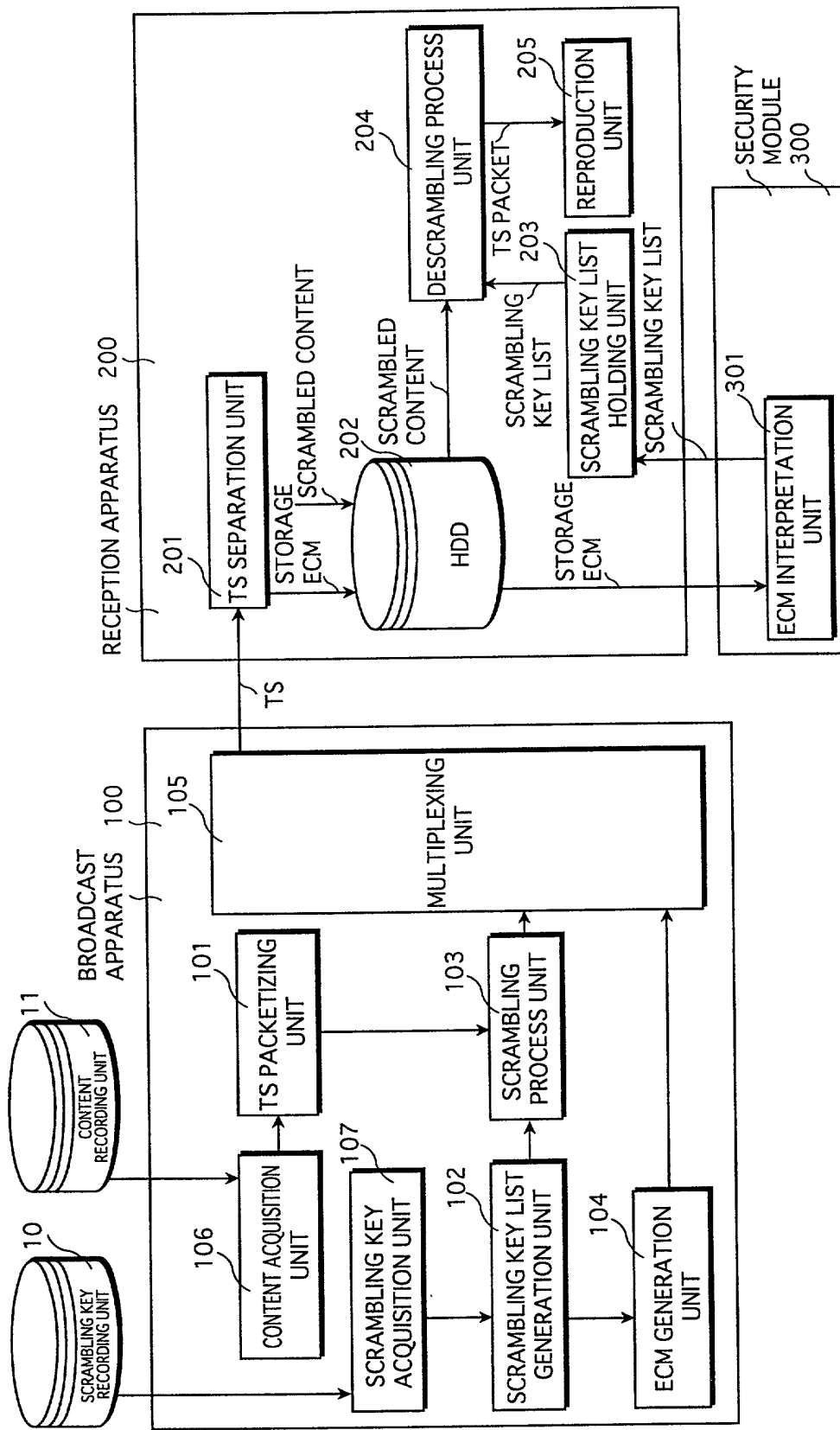


FIG. 2

DATA STRUCTURE OF SCRAMBLING KEY LIST DESCRIPTOR

CA_Ks_List_descriptor() {	
descriptor_tag	1 BYTE
descriptor_length	1 BYTE
for(i=0; i < N; i++) {	
Ks_id	1 BYTE
TS_packet_number	2 BYTES
Ks	8 BYTES
}	
}	

Ks_id :SCRAMBLING KEY IDENTIFIER
(TO IDENTIFY SCRAMBLING KEYS)
TS_packet_number :THE NUMBER OF TS PACKETS SCRAMBLED
WITH THE Ks
Ks :SCRAMBLING KEY

FIG. 3

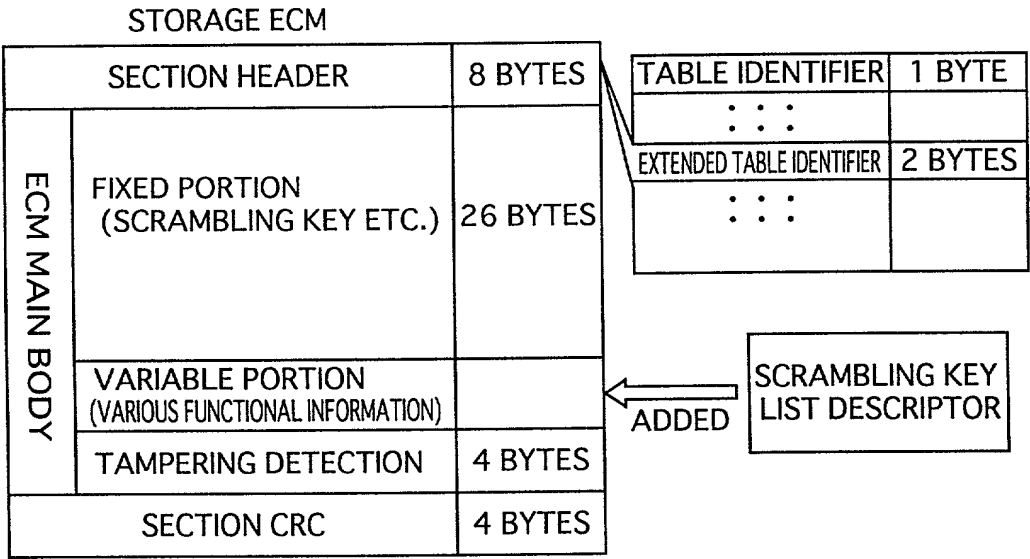
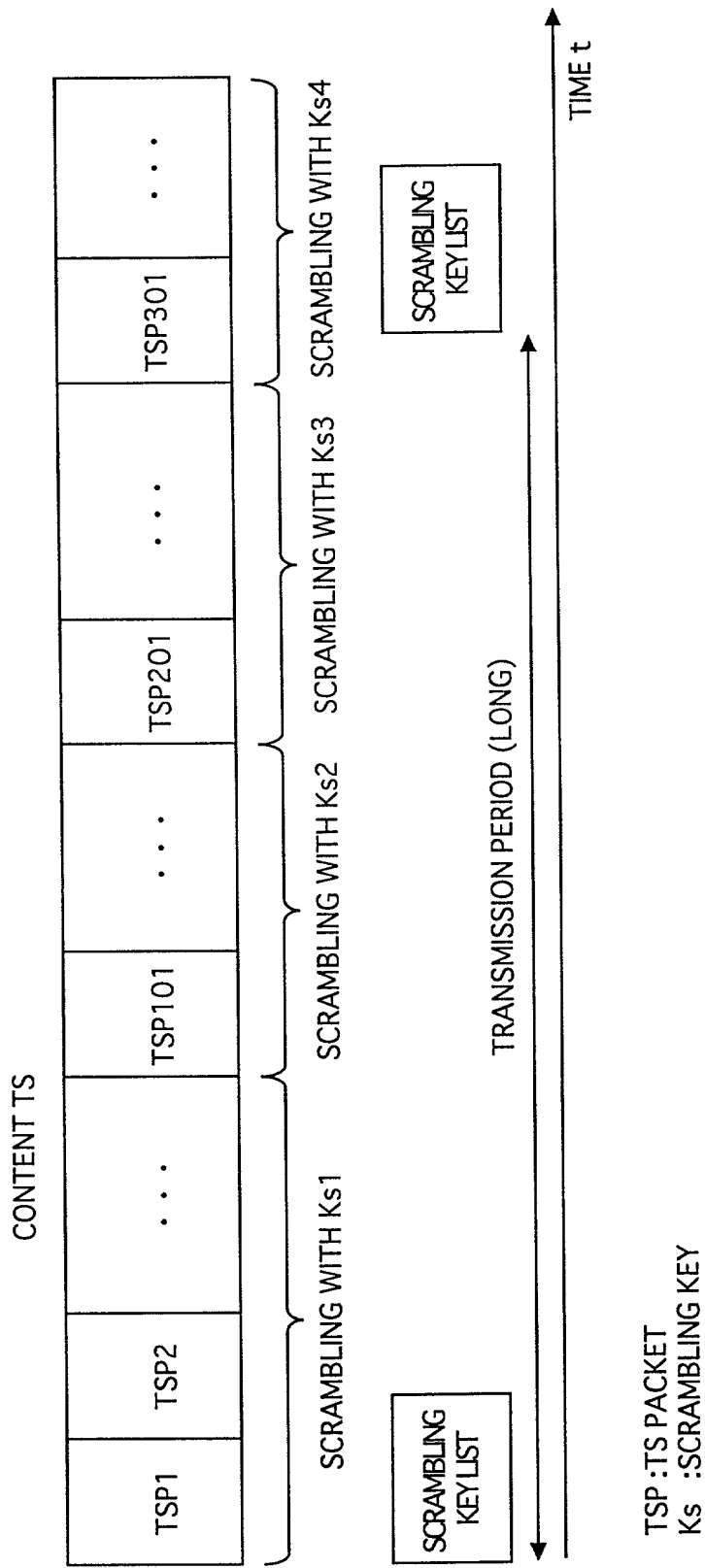


FIG. 4



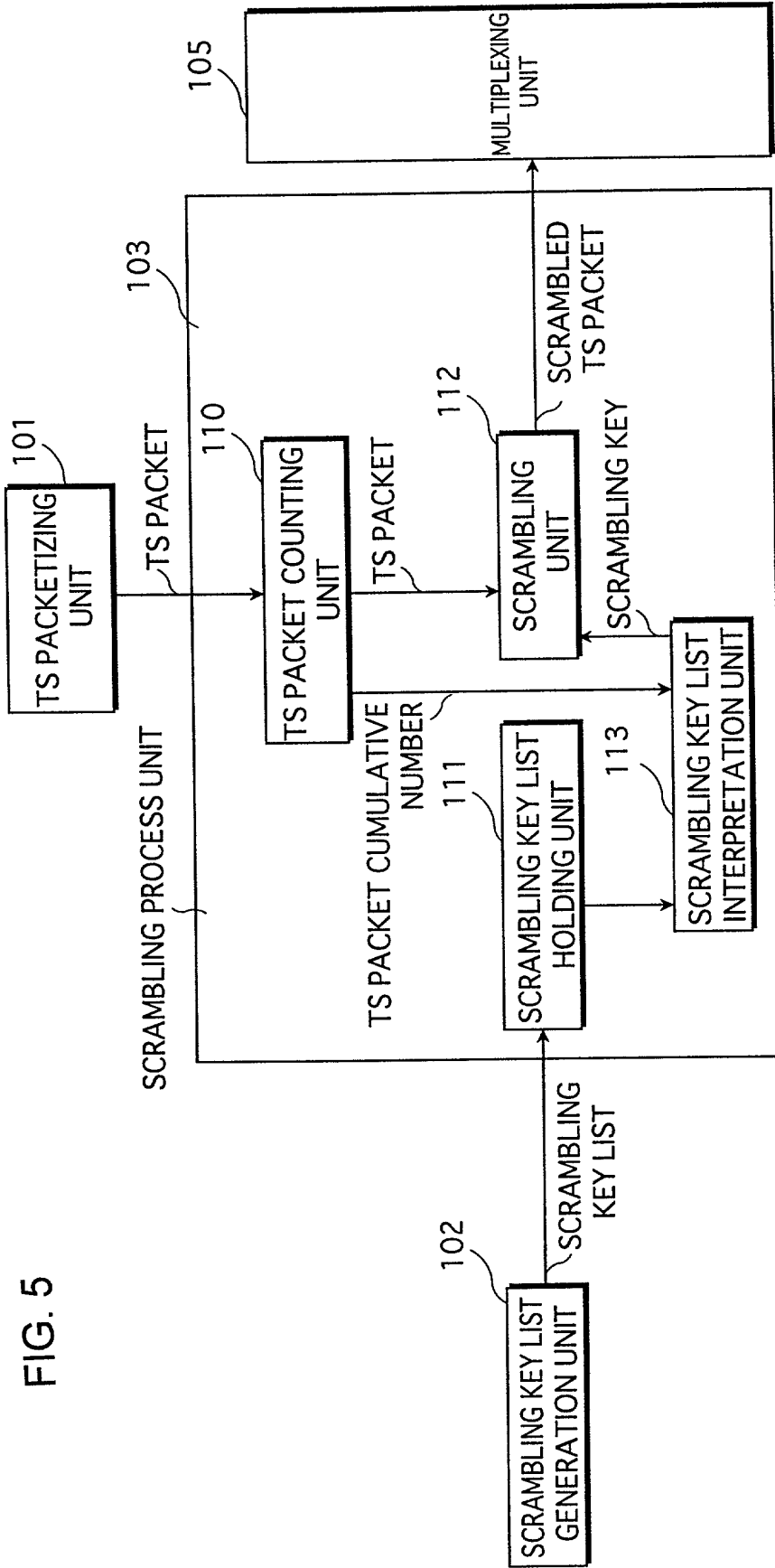


FIG. 6

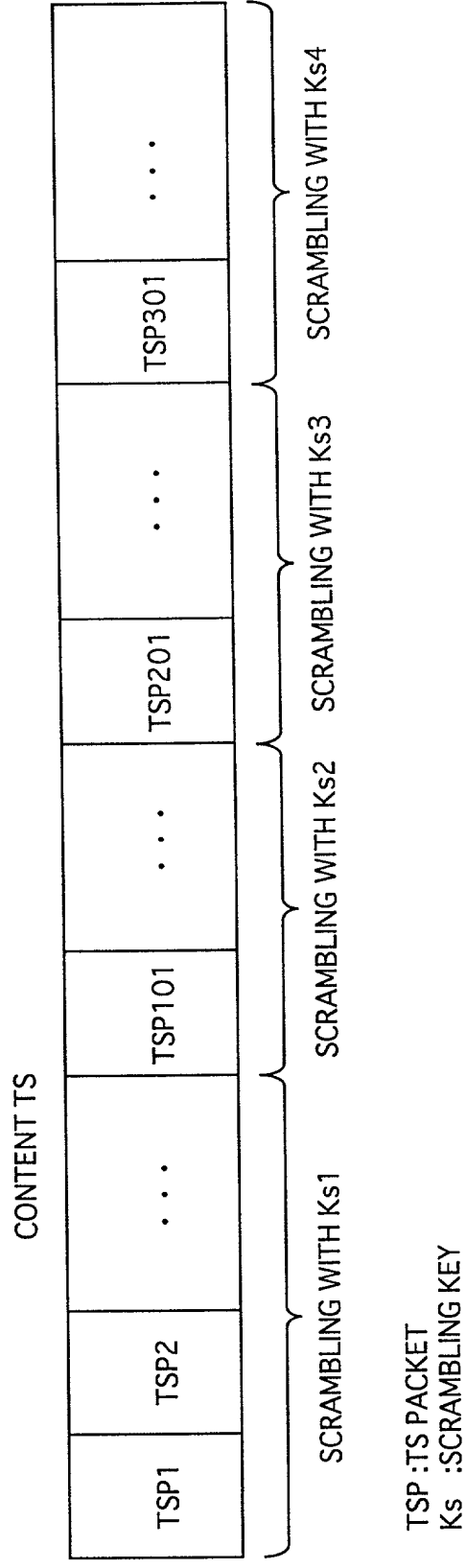


FIG. 7

SCRAMBLING KEY LIST

Ks_id	1
TS_packet_number	100
Ks	Ks 1
Ks_id	2
TS_packet_number	100
Ks	Ks 2
Ks_id	3
TS_packet_number	100
Ks	Ks 3
Ks_id	4
TS_packet_number	100
Ks	Ks 4

FIG. 8

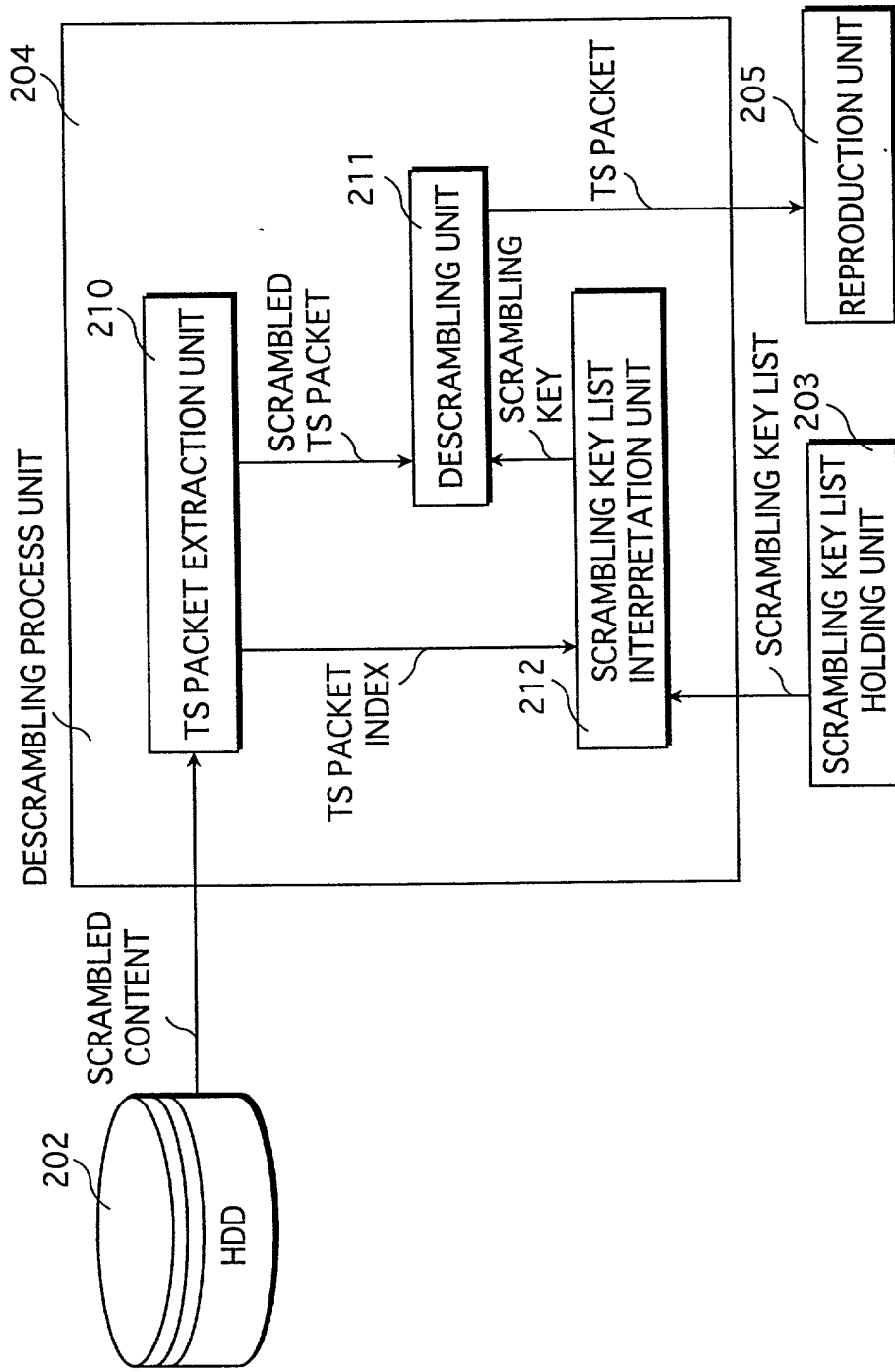


FIG. 9

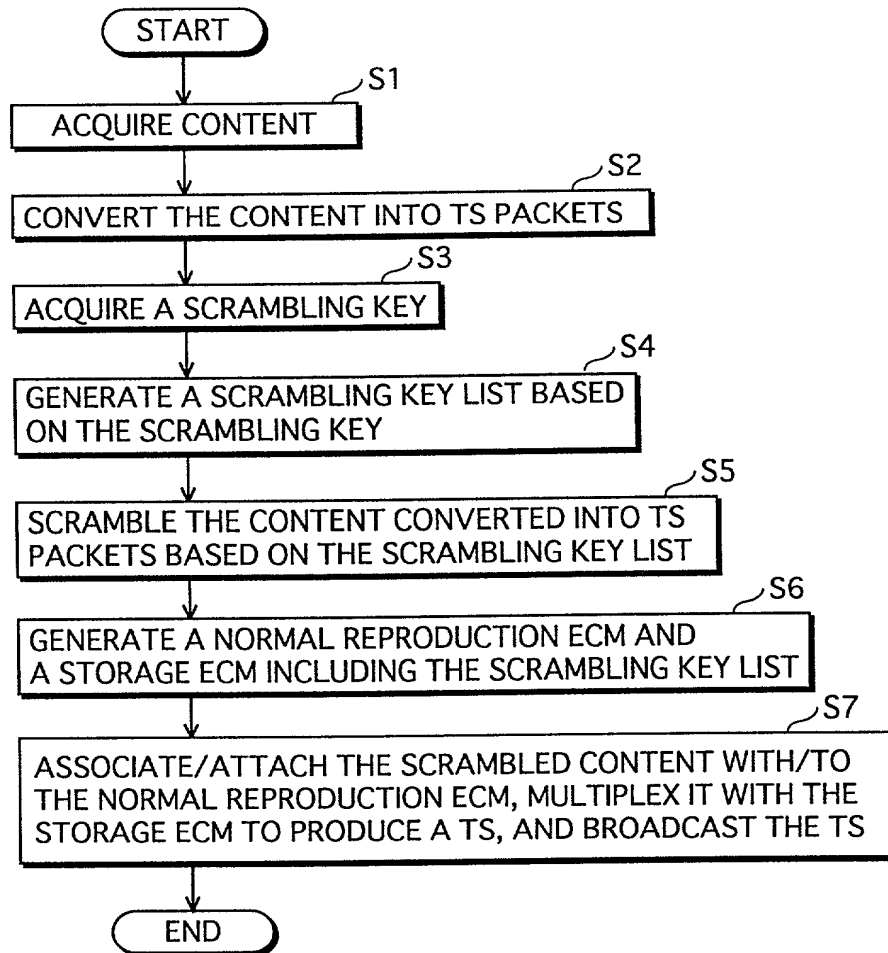


FIG. 10

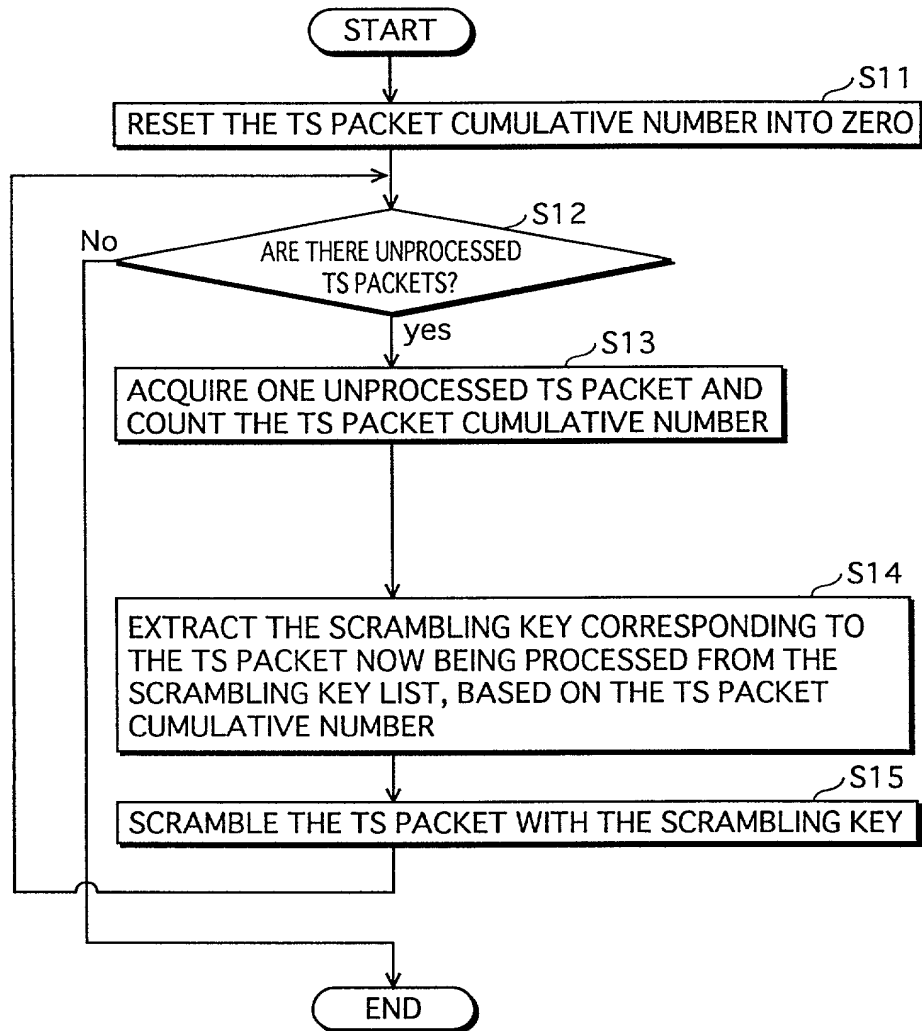


FIG. 11

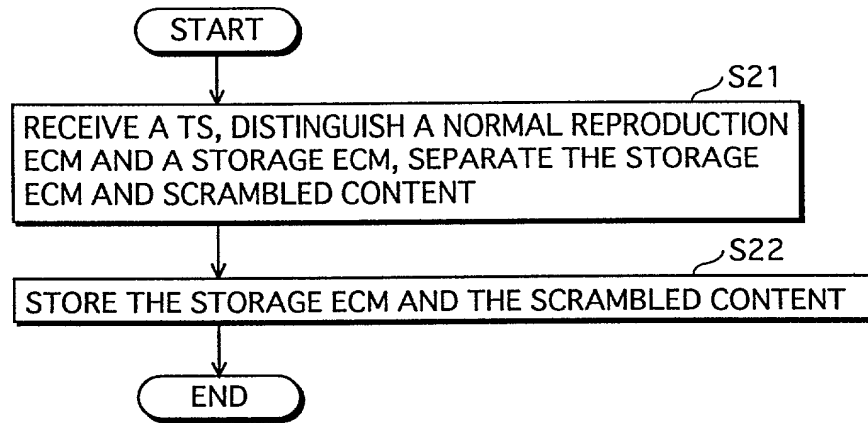


FIG. 12

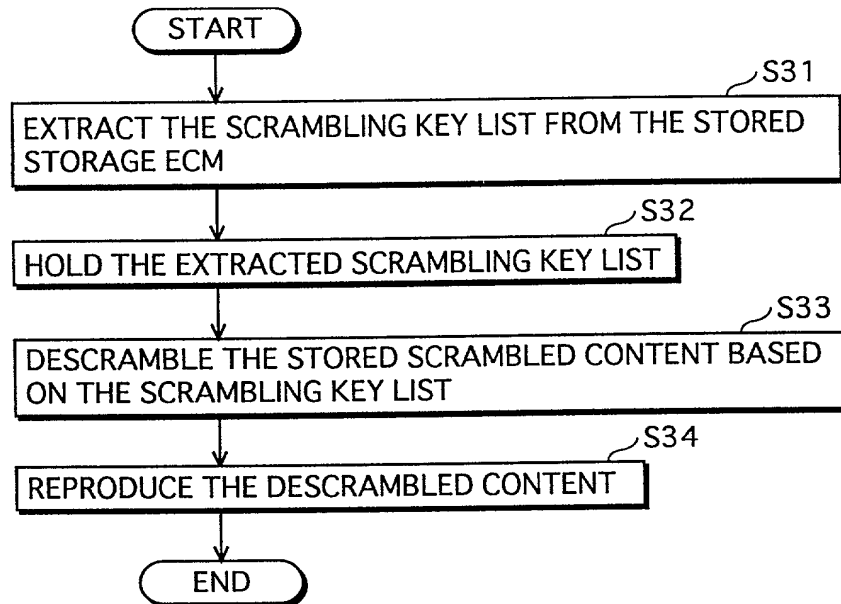


FIG. 13

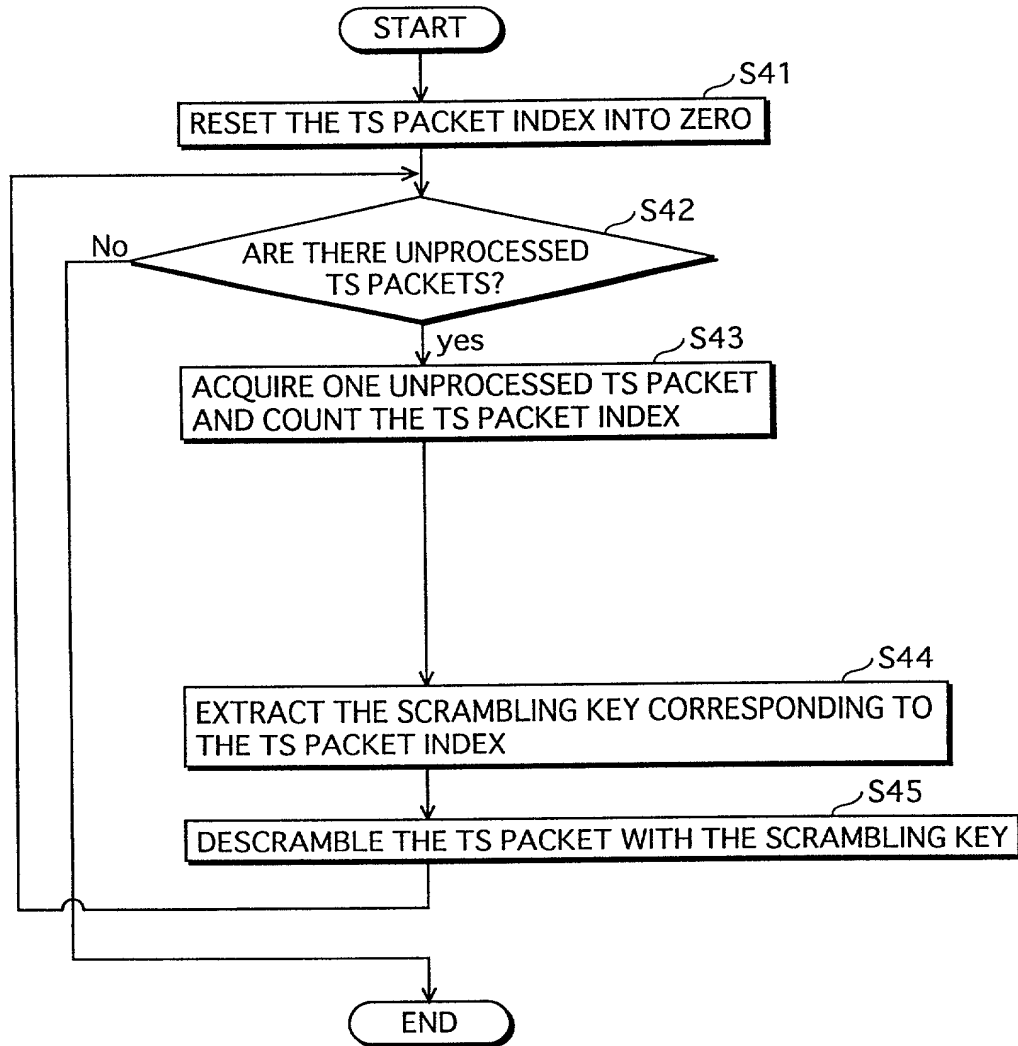
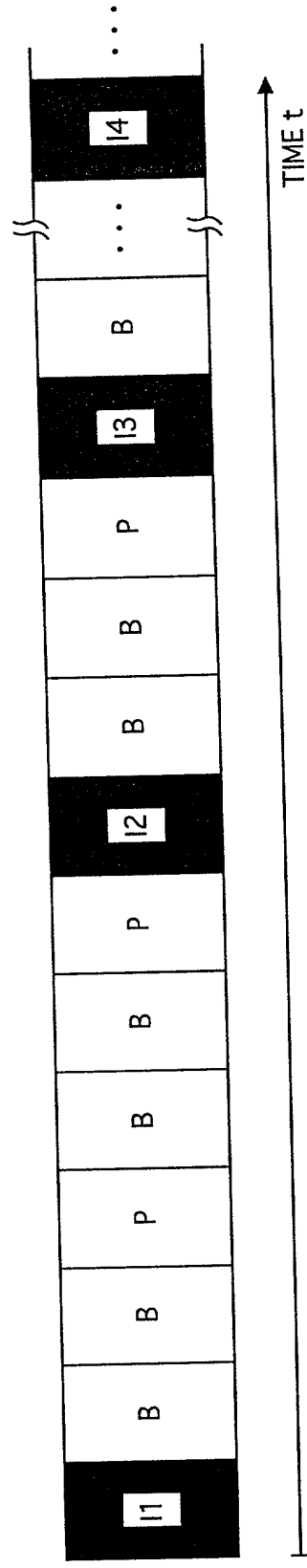


FIG. 14



I: I PICTURE
B: B PICTURE
P: P PICTURE

FIG. 15

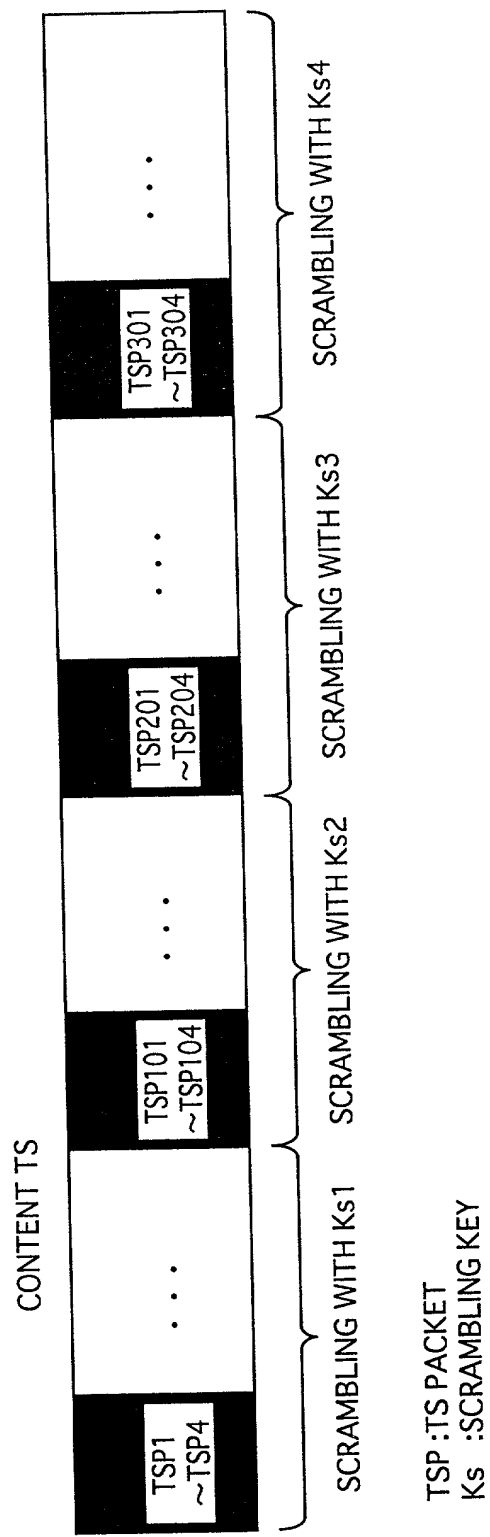
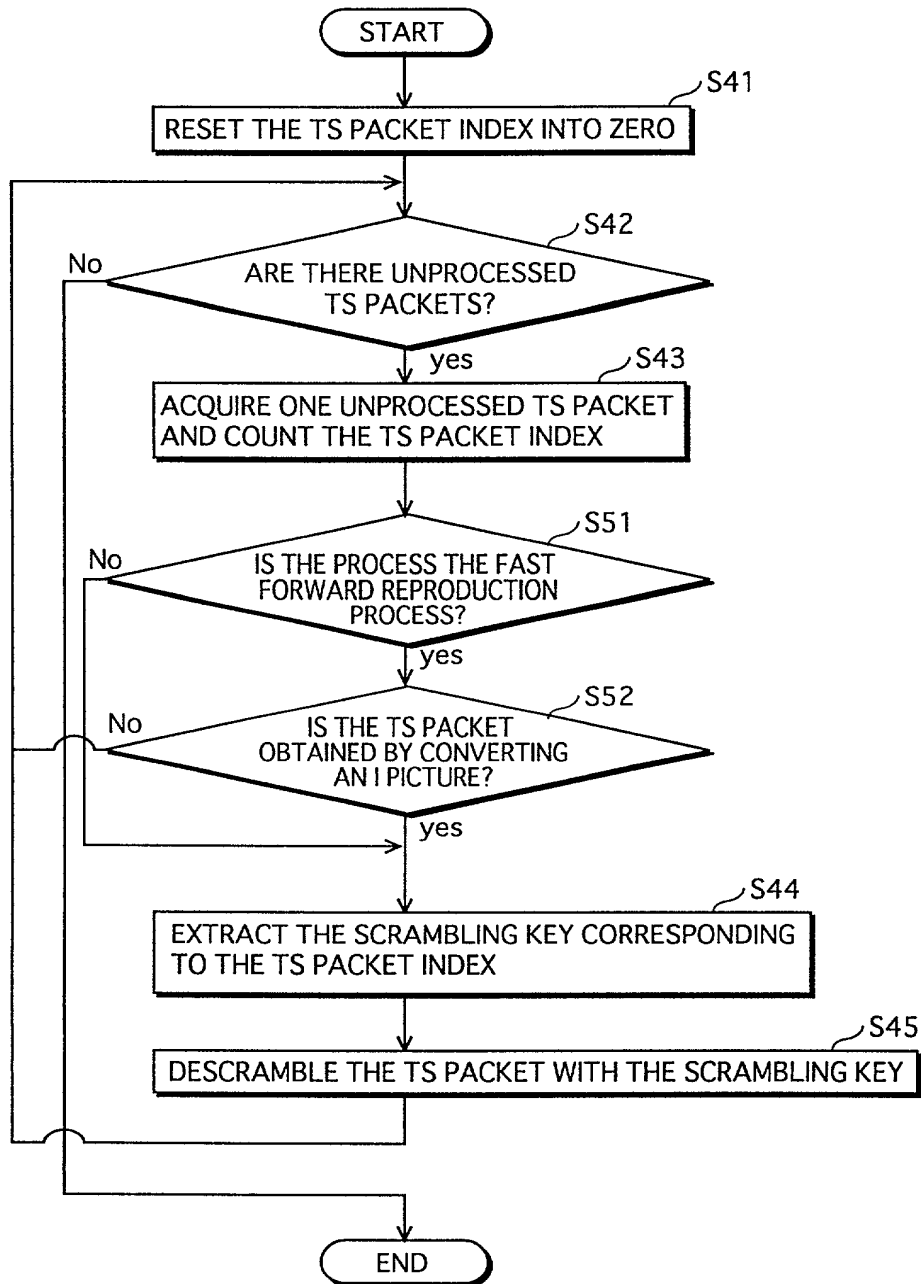


FIG. 16



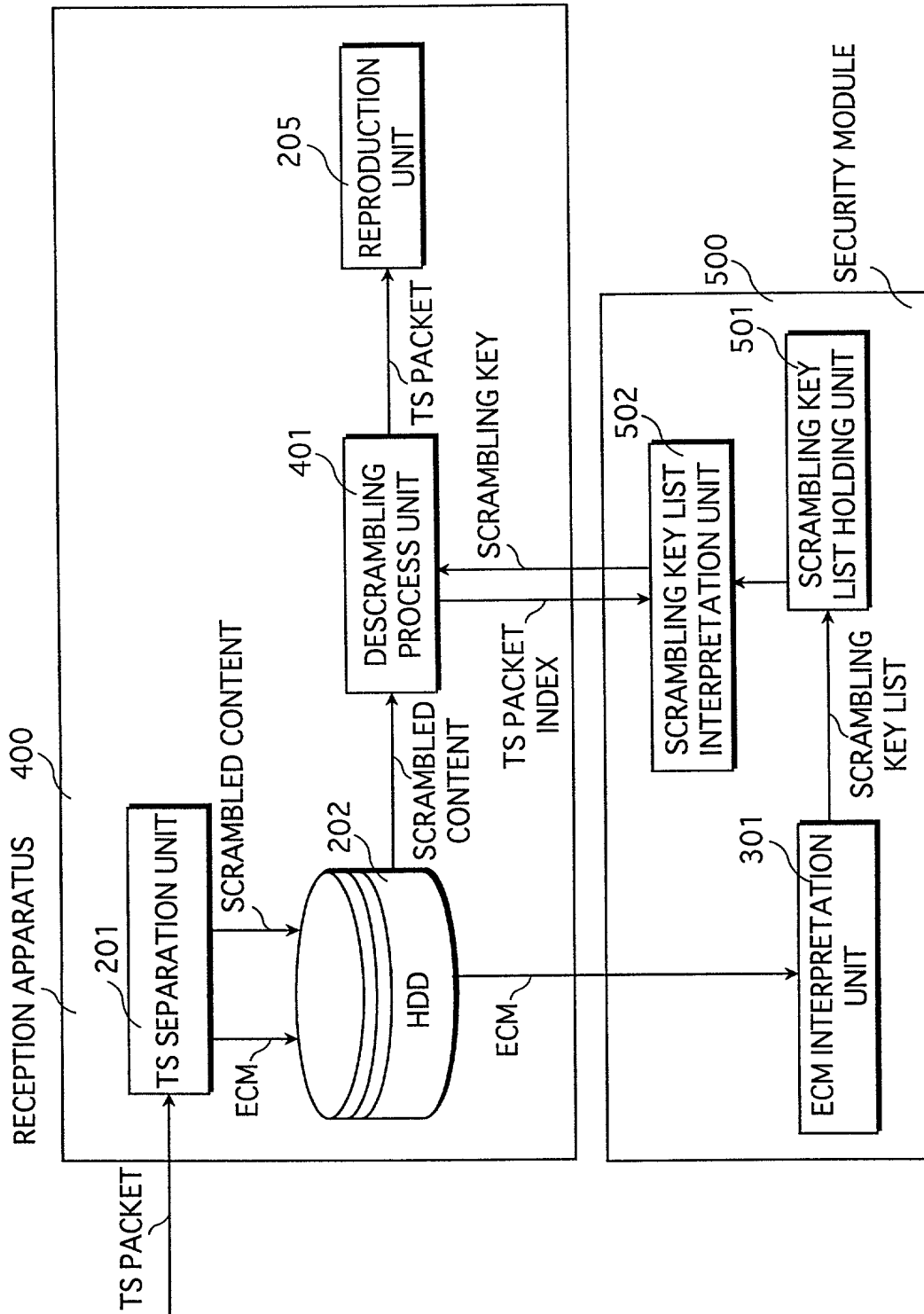


FIG. 18

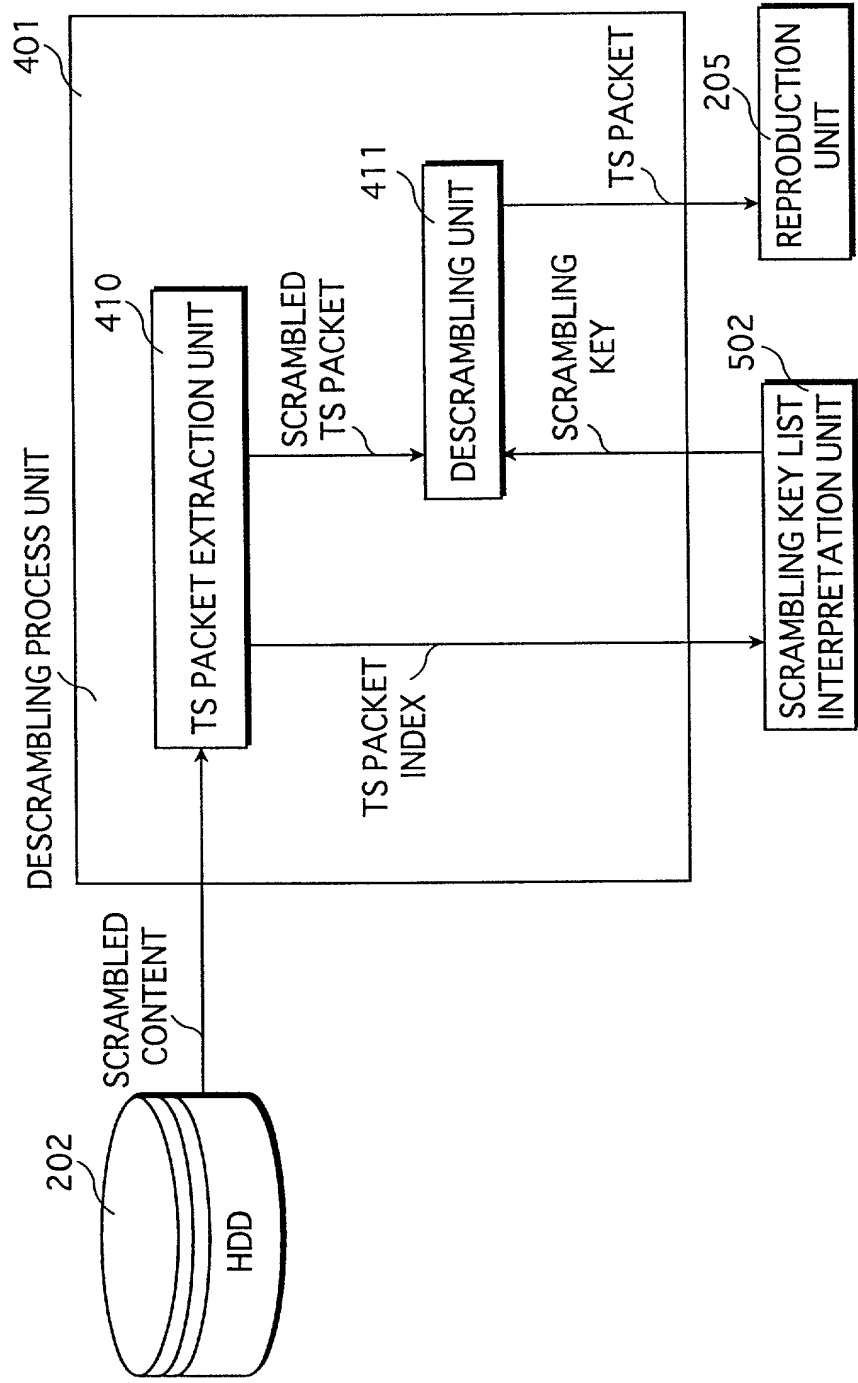


FIG. 19

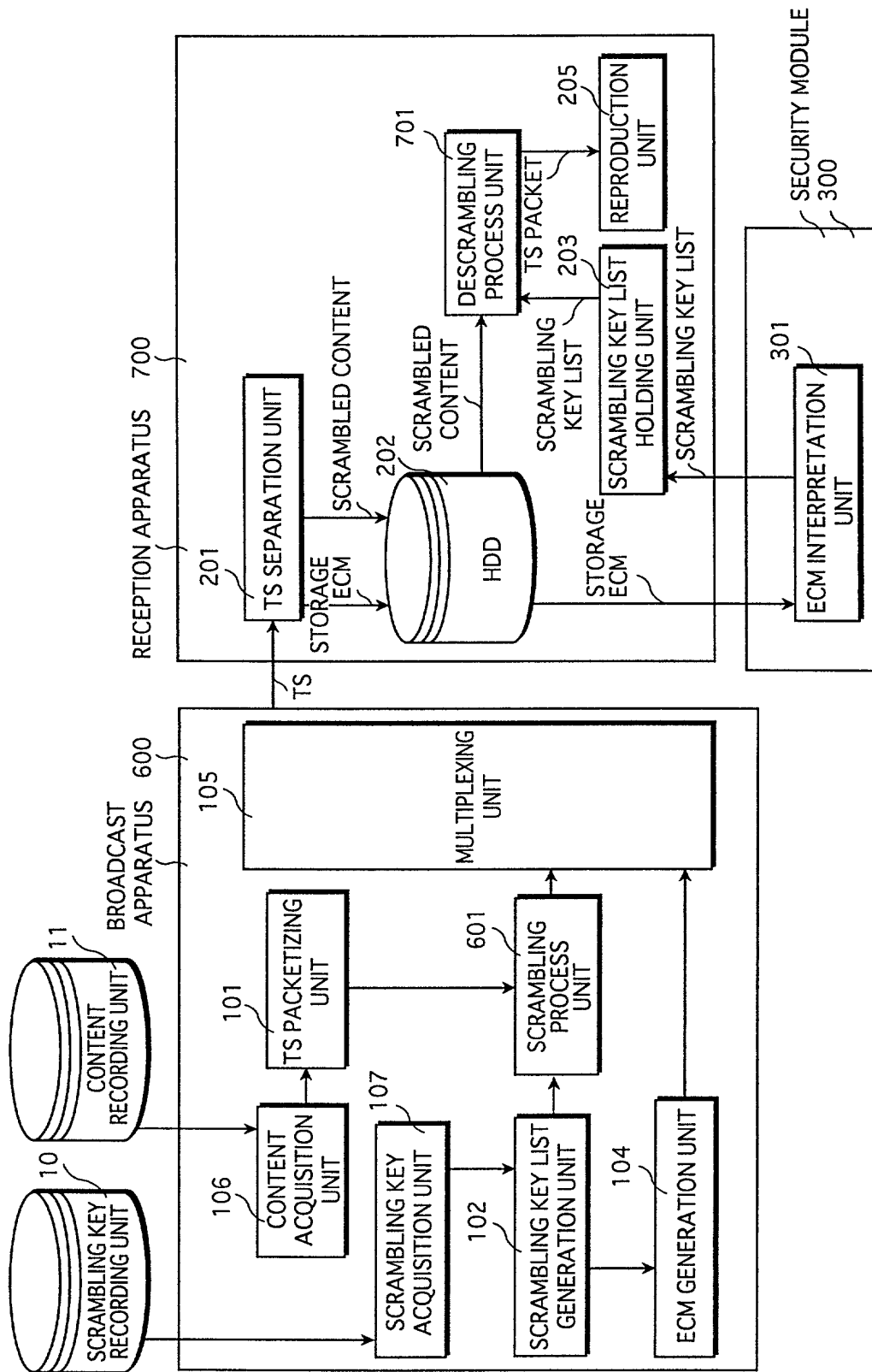


FIG. 20

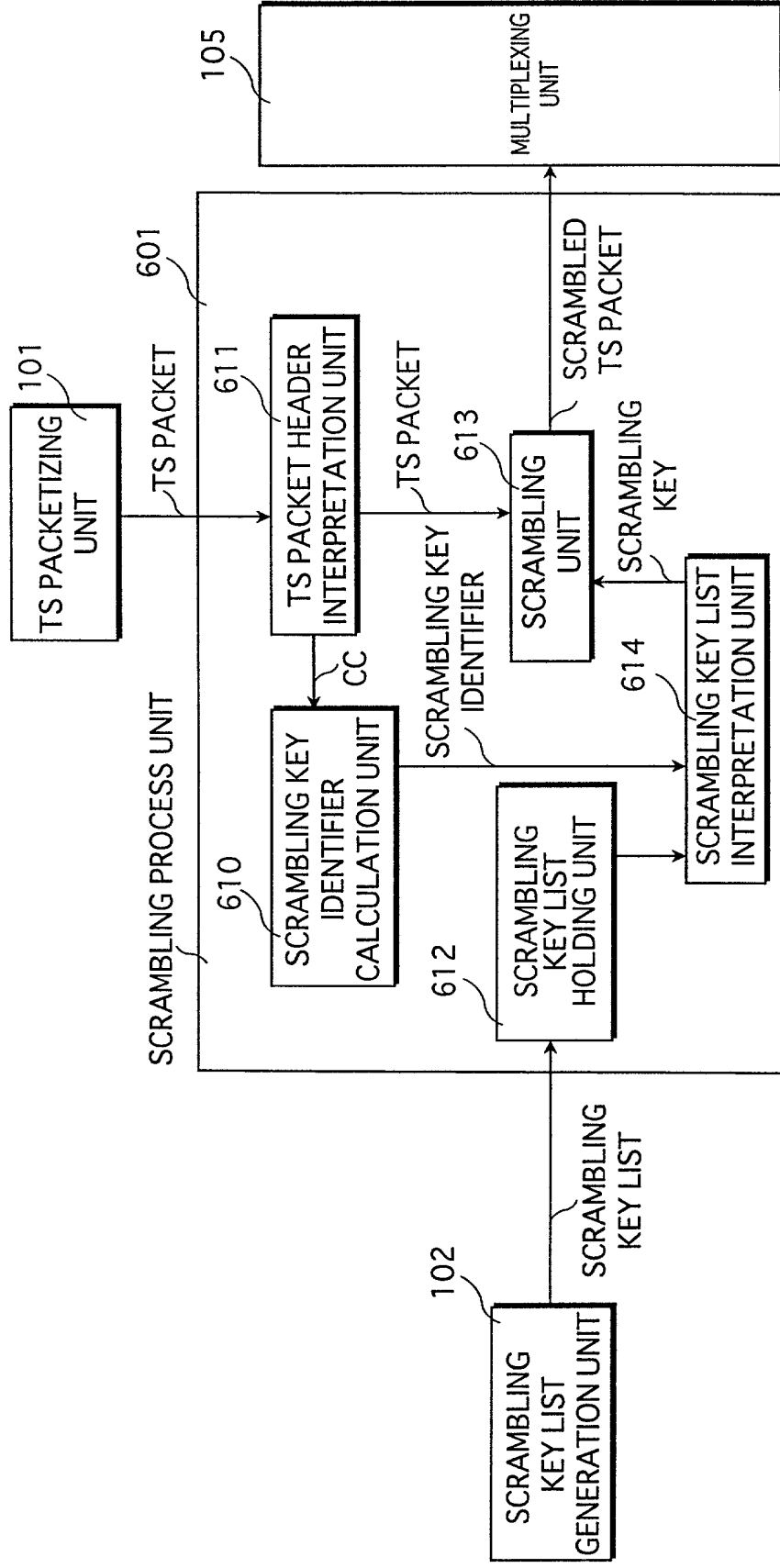


FIG. 21

SCRAMBLING KEY LIST

Ks_id Ks	0 Ks 1
Ks_id Ks	1 Ks 2
Ks_id Ks	2 Ks 3
Ks_id Ks	3 Ks 4
Ks_id Ks	4 Ks 5
Ks_id Ks	5 Ks 6
Ks_id Ks	6 Ks 7
Ks_id Ks	7 Ks 8
Ks_id Ks	8 Ks 9
Ks_id Ks	9 Ks 10
Ks_id Ks	10 Ks 11
Ks_id Ks	11 Ks 12
Ks_id Ks	12 Ks 13
Ks_id Ks	13 Ks 14
Ks_id Ks	14 Ks 15
Ks_id Ks	15 Ks 16

FIG. 22

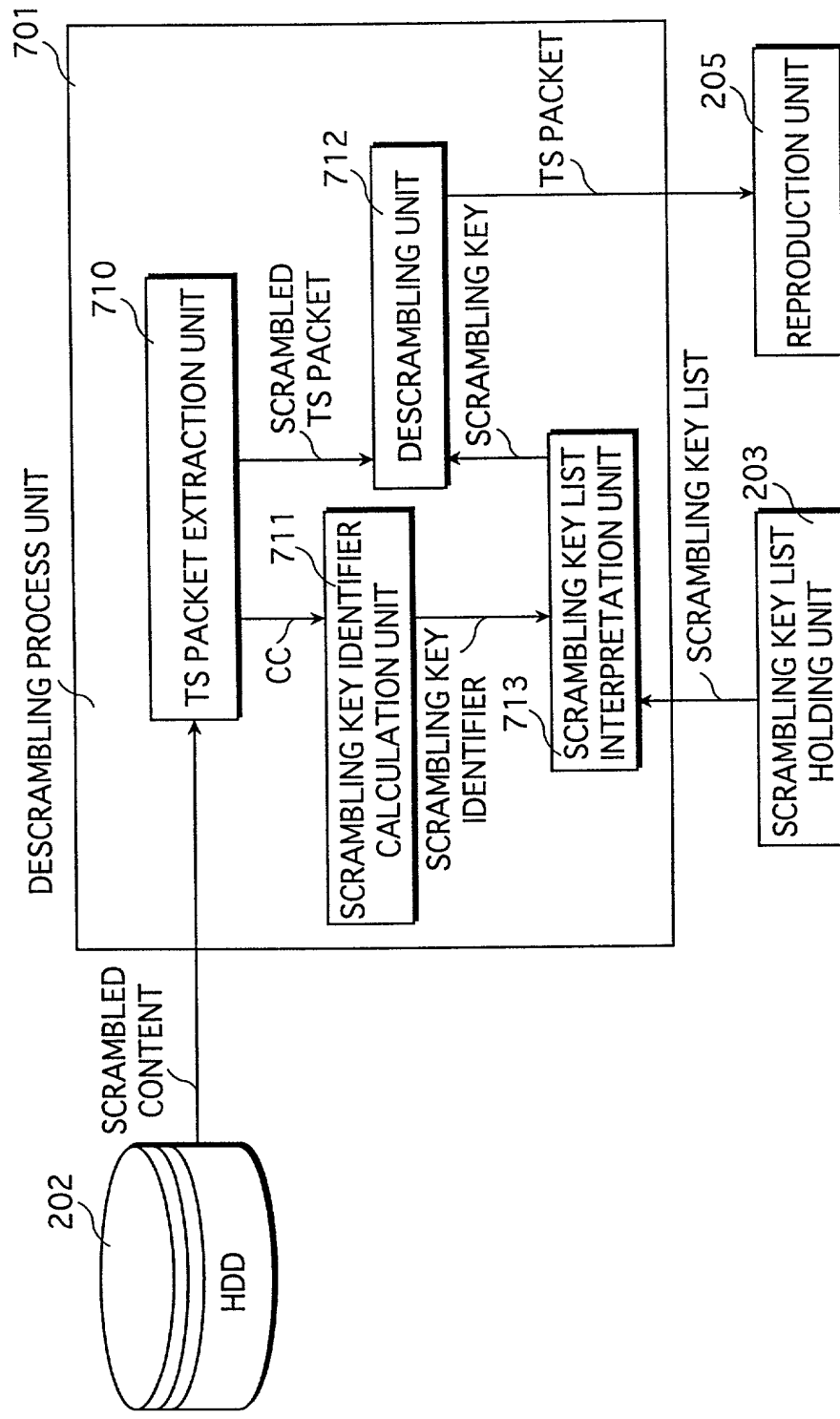


FIG. 23

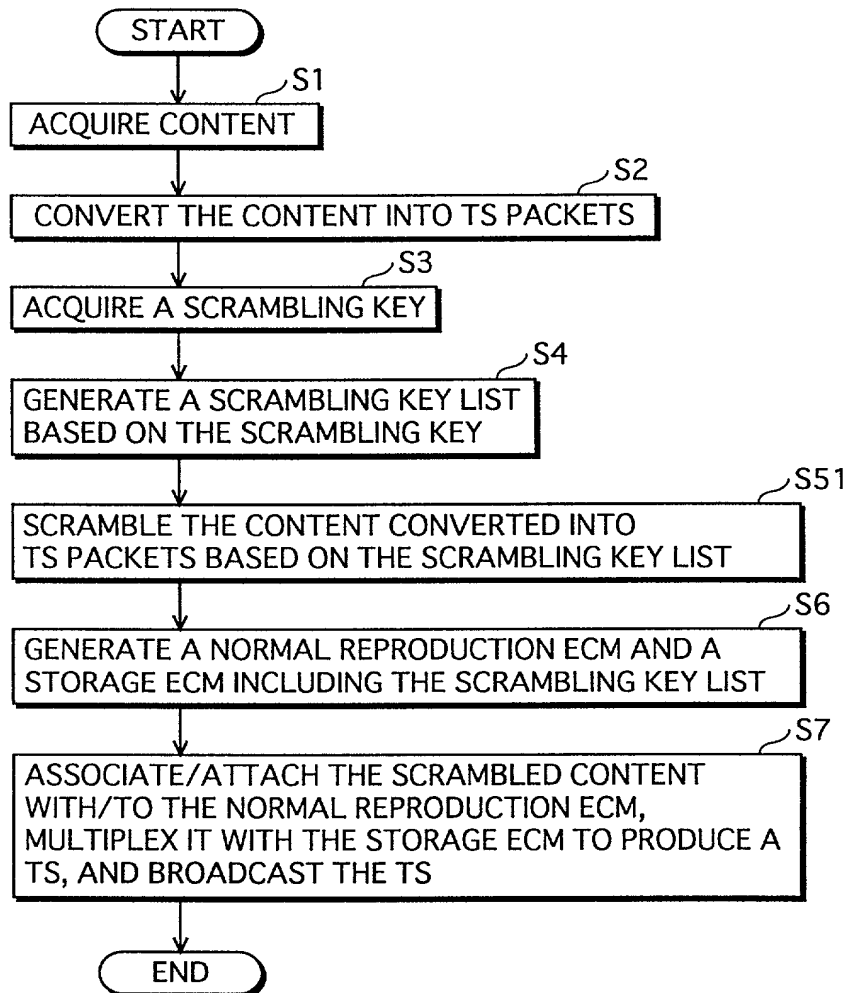


FIG. 24

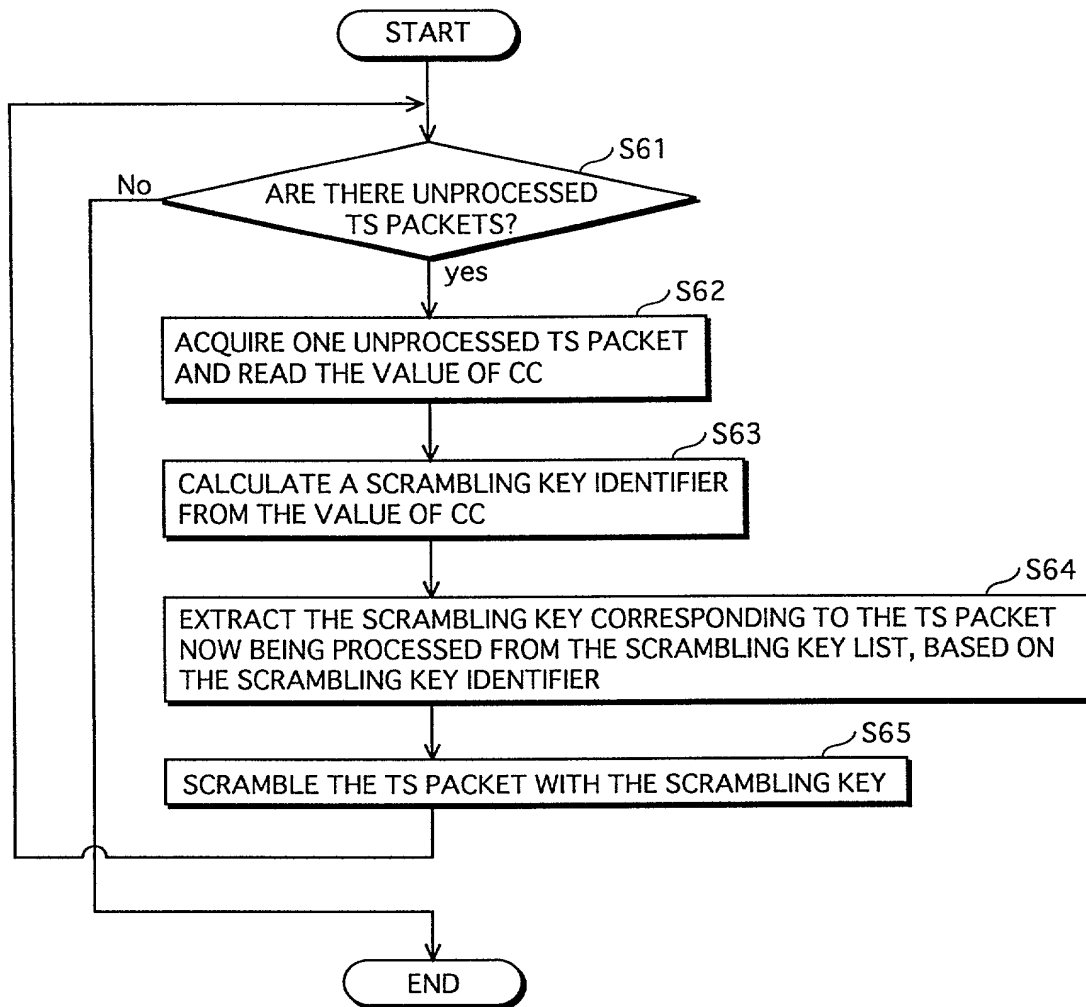


FIG. 25

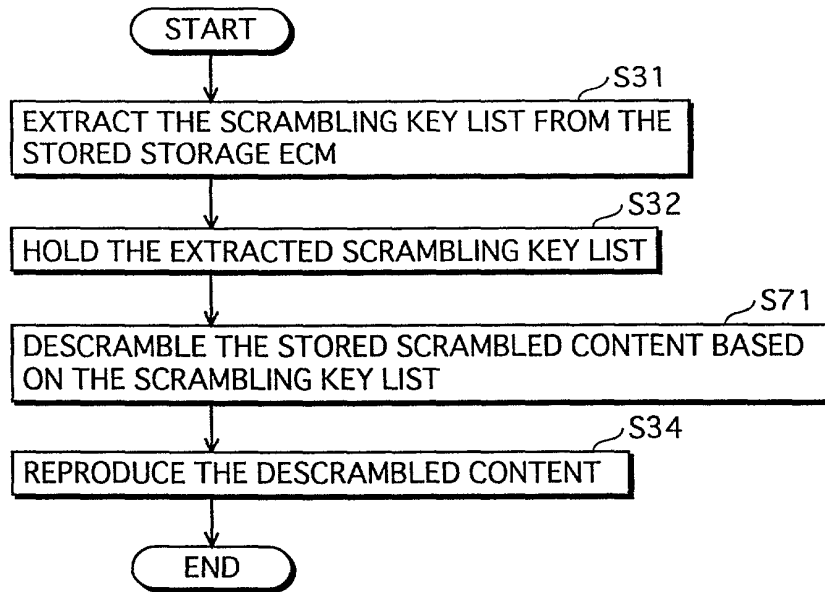


FIG. 26

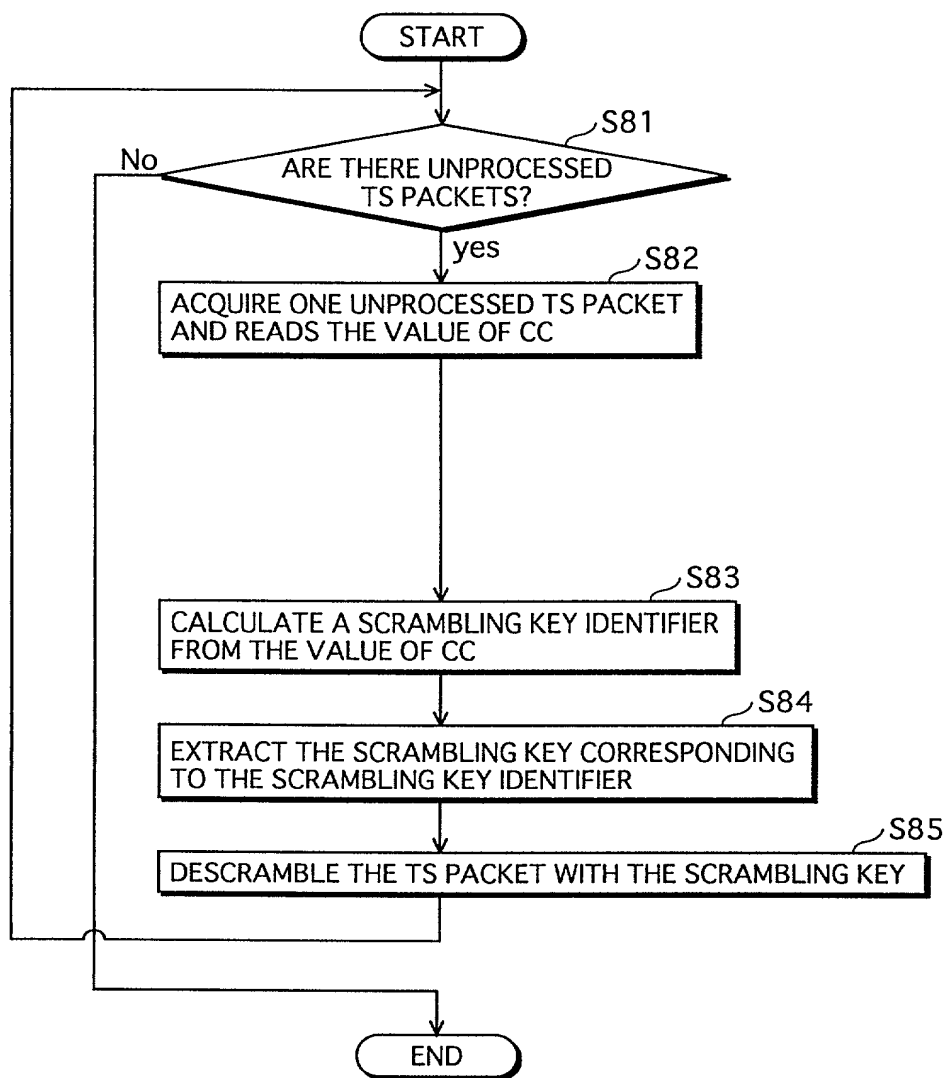


FIG. 27

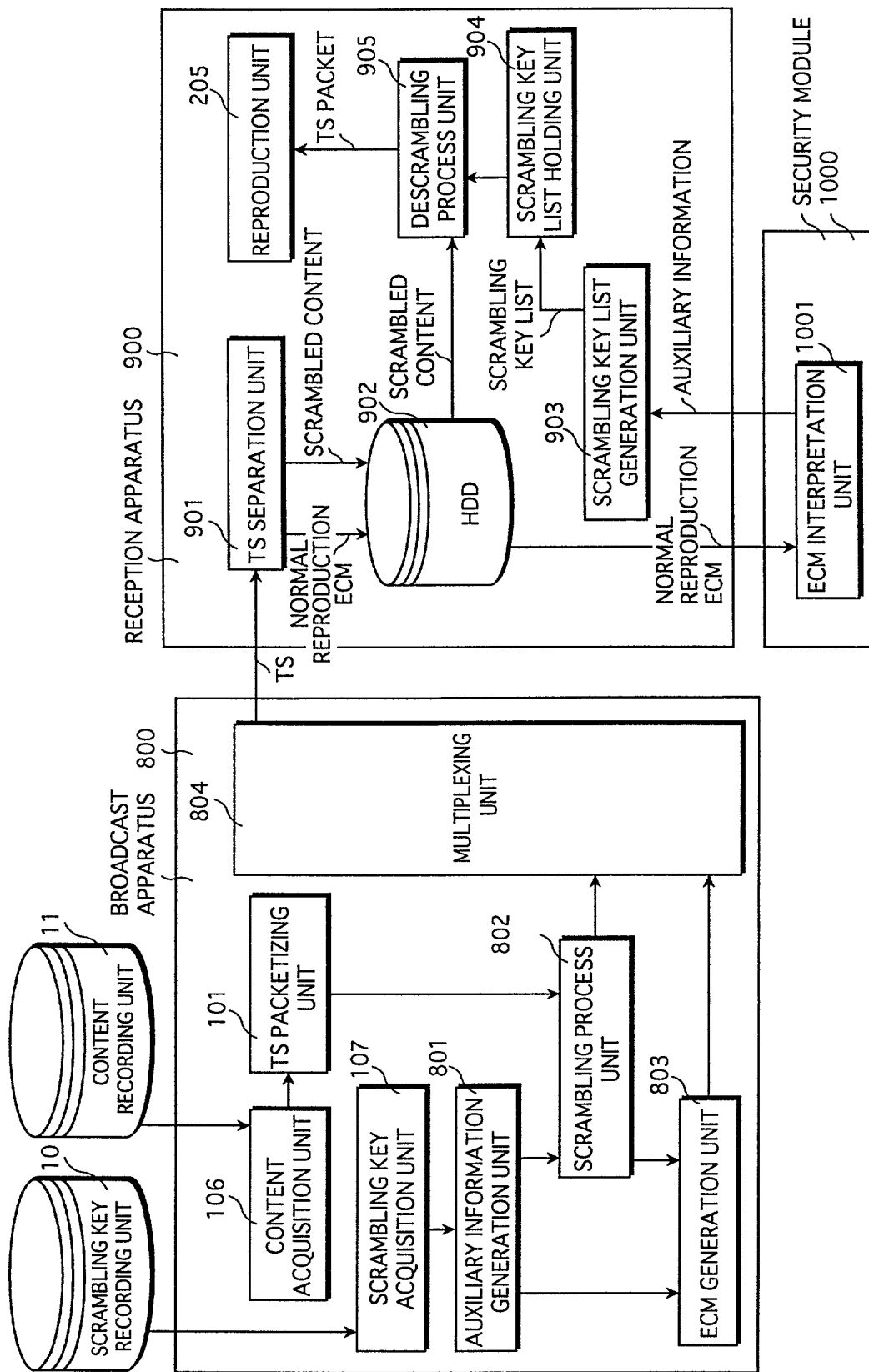


FIG. 28

DATA STRUCTURE OF SCRAMBLING KEY LIST GENERATION DESCRIPTOR

CA_Ks_ListInfo_descriptor() {	
descriptor_tag	1 BYTE
descriptor_length	1 BYTE
Ks_id	1 BYTE
TS_packet_number	2 BYTES
Ks	8 BYTES
}	

Ks_id :SCRAMBLING KEY IDENTIFIER
(TO IDENTIFY SCRAMBLING KEYS)
TS_packet_number :THE NUMBER OF TS PACKETS SCRAMBLED
WITH THE Ks
Ks :SCRAMBLING KEY

FIG. 29

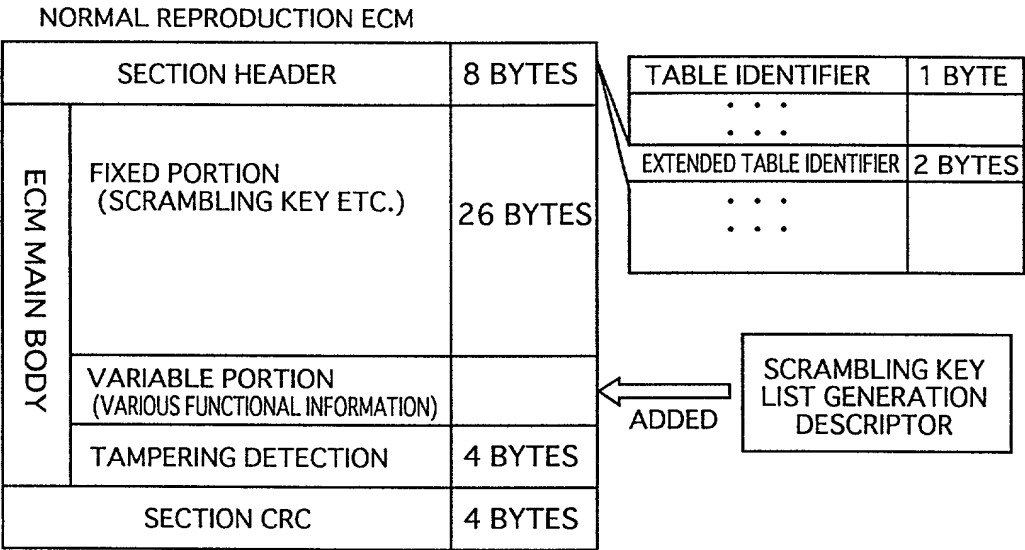


FIG. 30

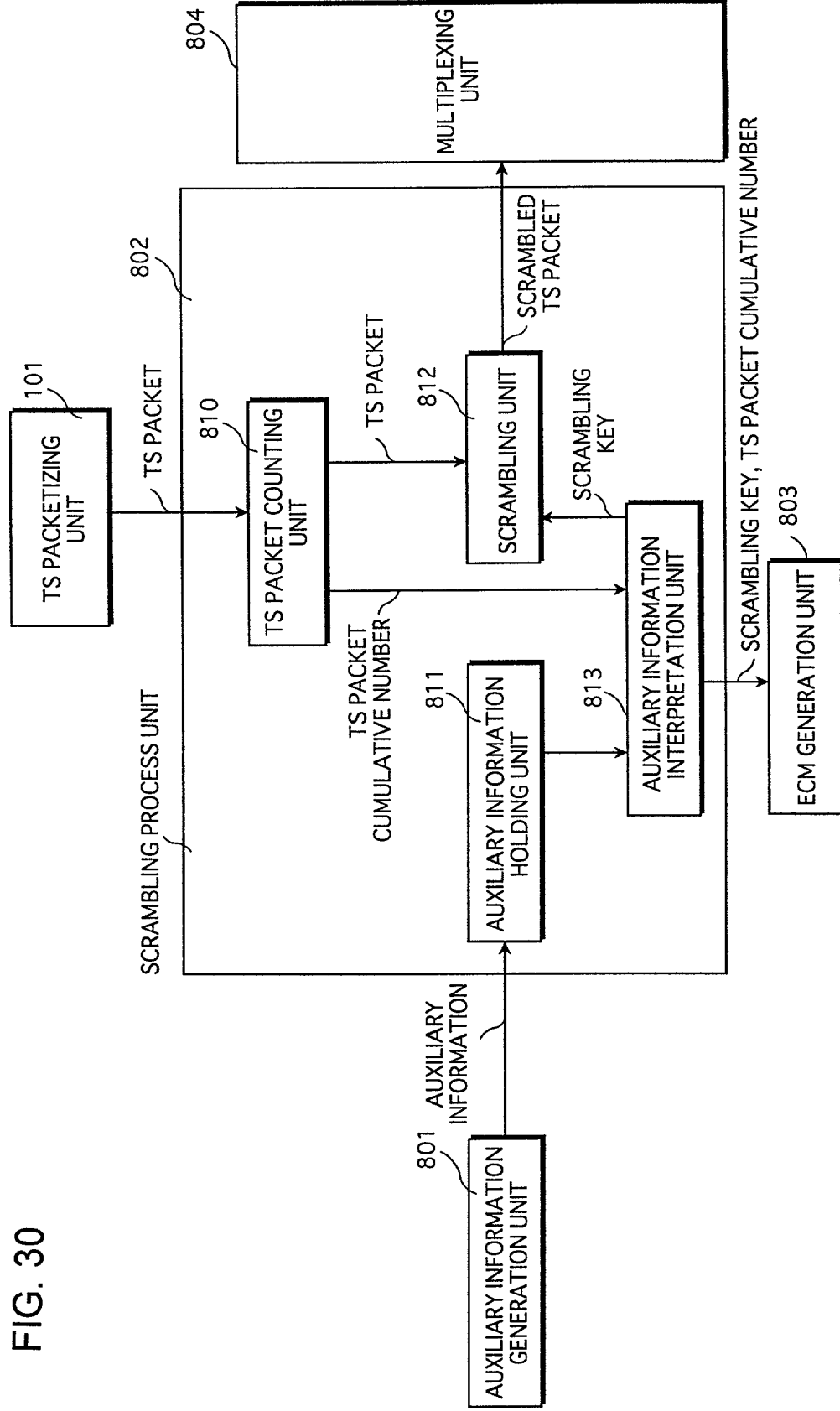


FIG. 31

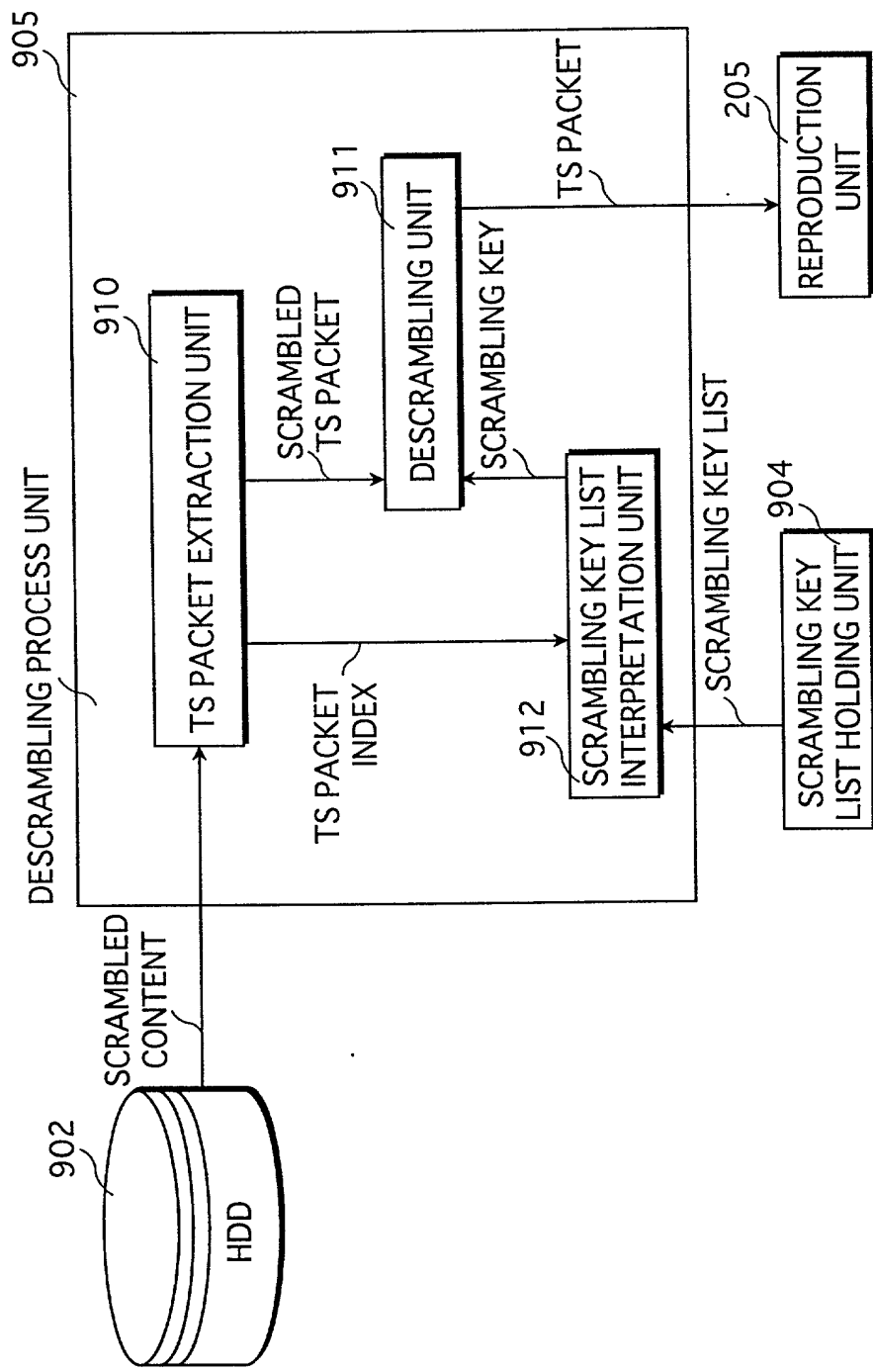


FIG. 32

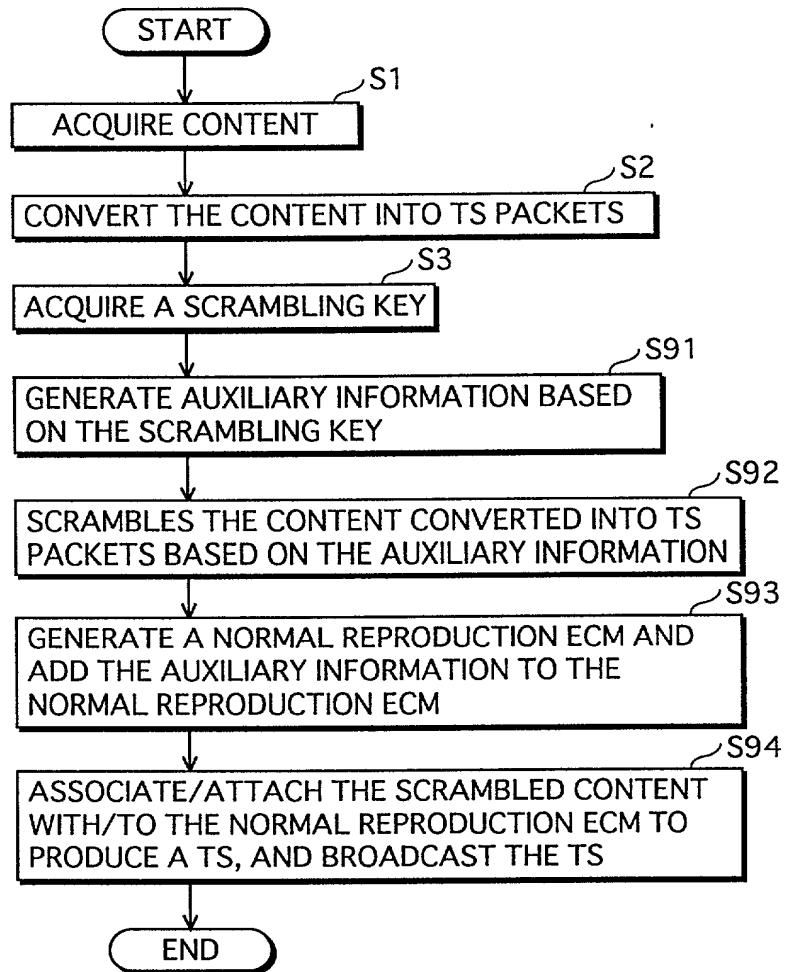


FIG. 33

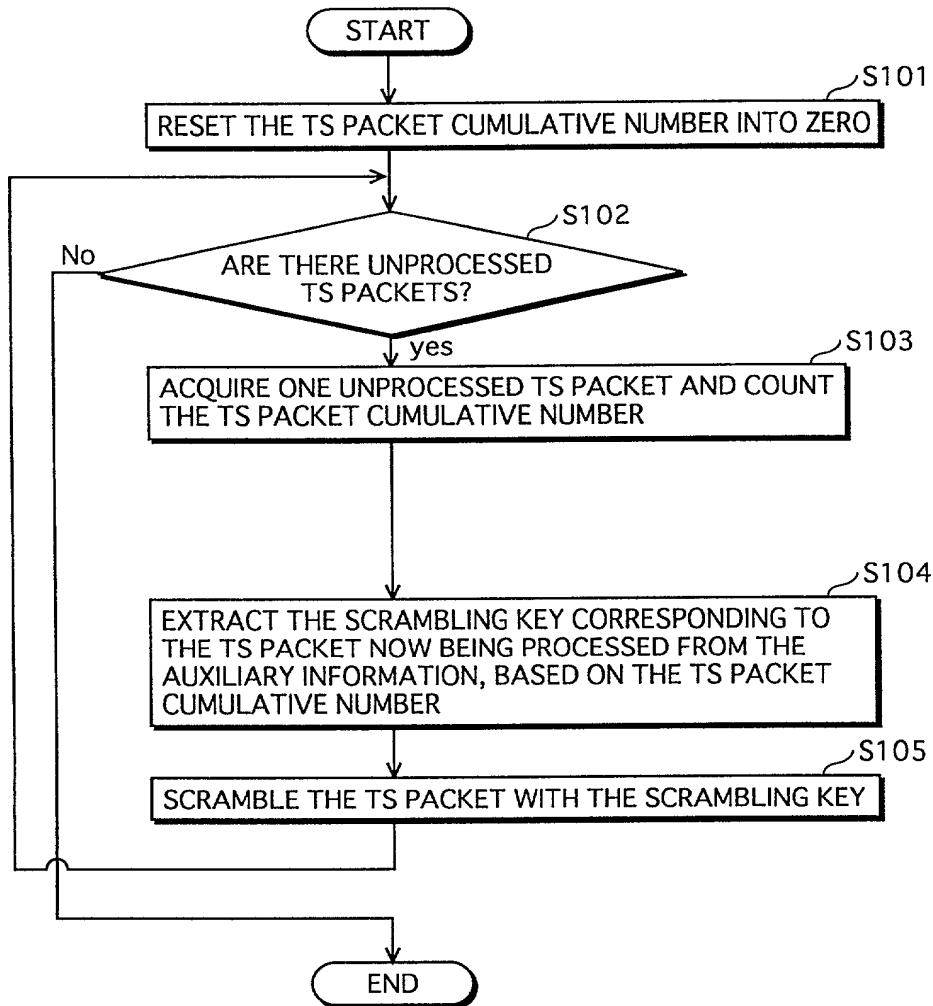


FIG. 34

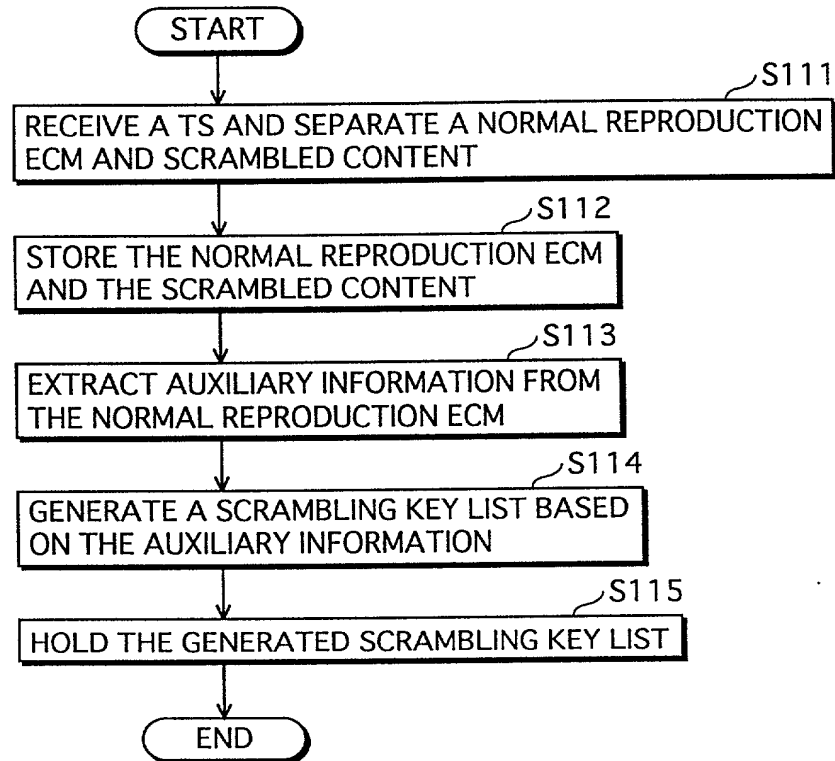


FIG. 35

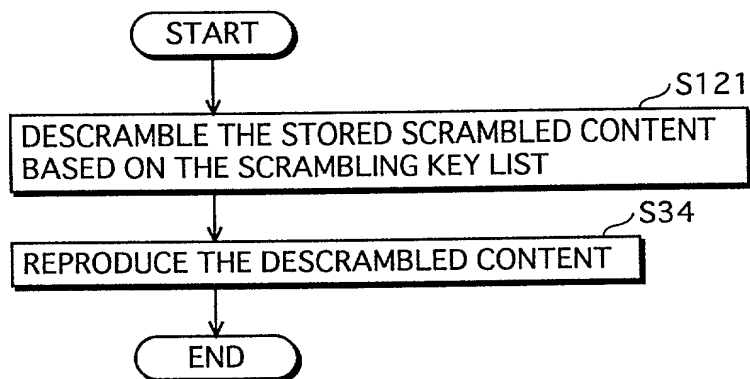


FIG. 36

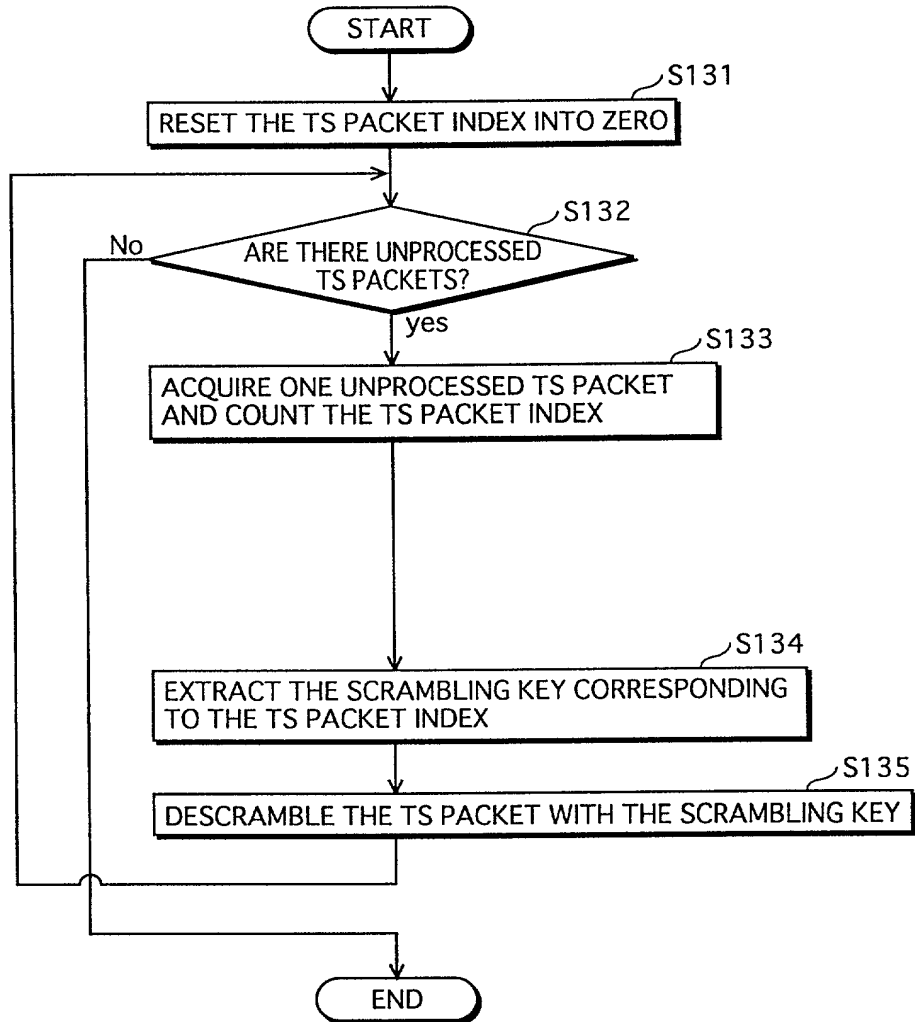


FIG. 37

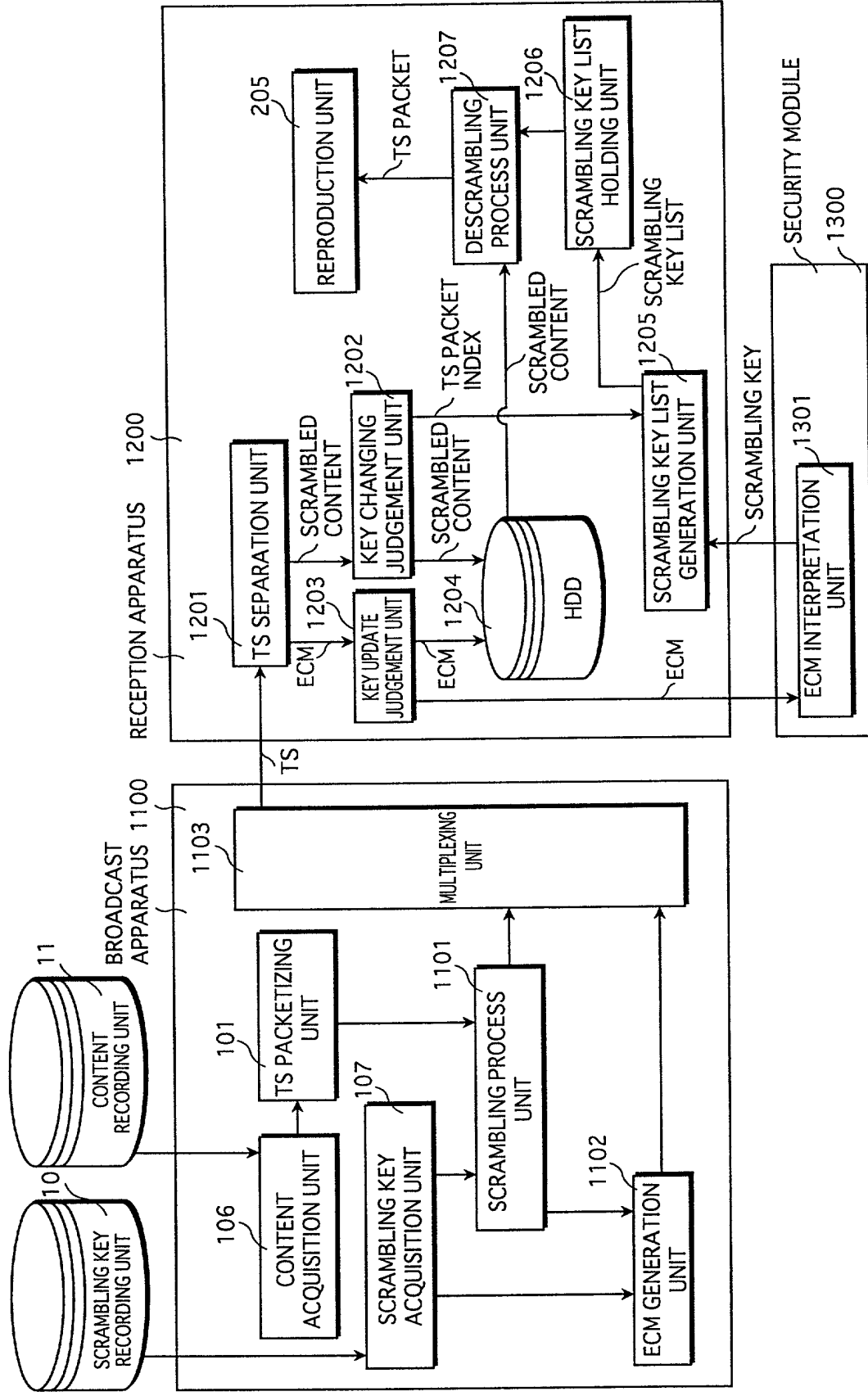


FIG. 38

- SCRAMBLING KEYS ARE CLASSIFIED INTO ODD NUMBER KEYS AND EVEN NUMBER KEYS.
- ONE ECM TRANSMITS BOTH OF THE ODD NUMBER KEY AND THE EVEN NUMBER KEY.
- WHEN UPDATING ECM, EITHER ODD NUMBER KEY OR EVEN NUMBER KEY IS UPDATED.

CONTENT TS

ODD NUMBER KEY1	EVEN NUMBER KEY2	ODD NUMBER KEY2	EVEN NUMBER KEY3	ODD NUMBER KEY3	...
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ECM

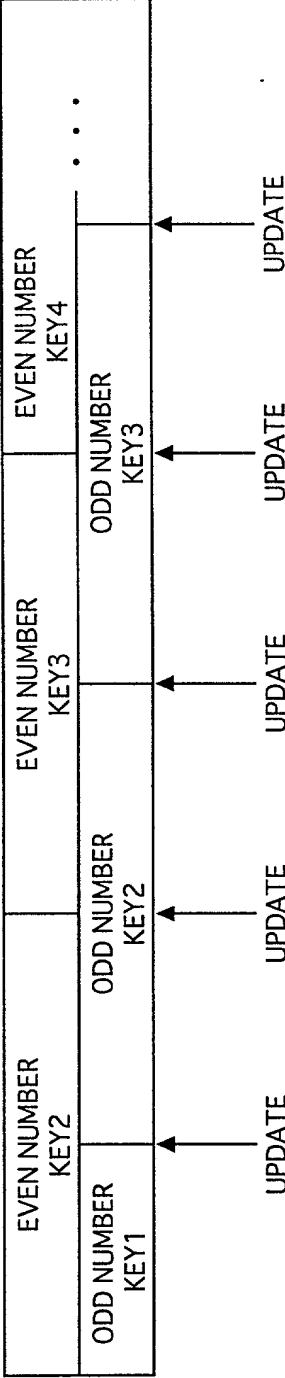


FIG. 39

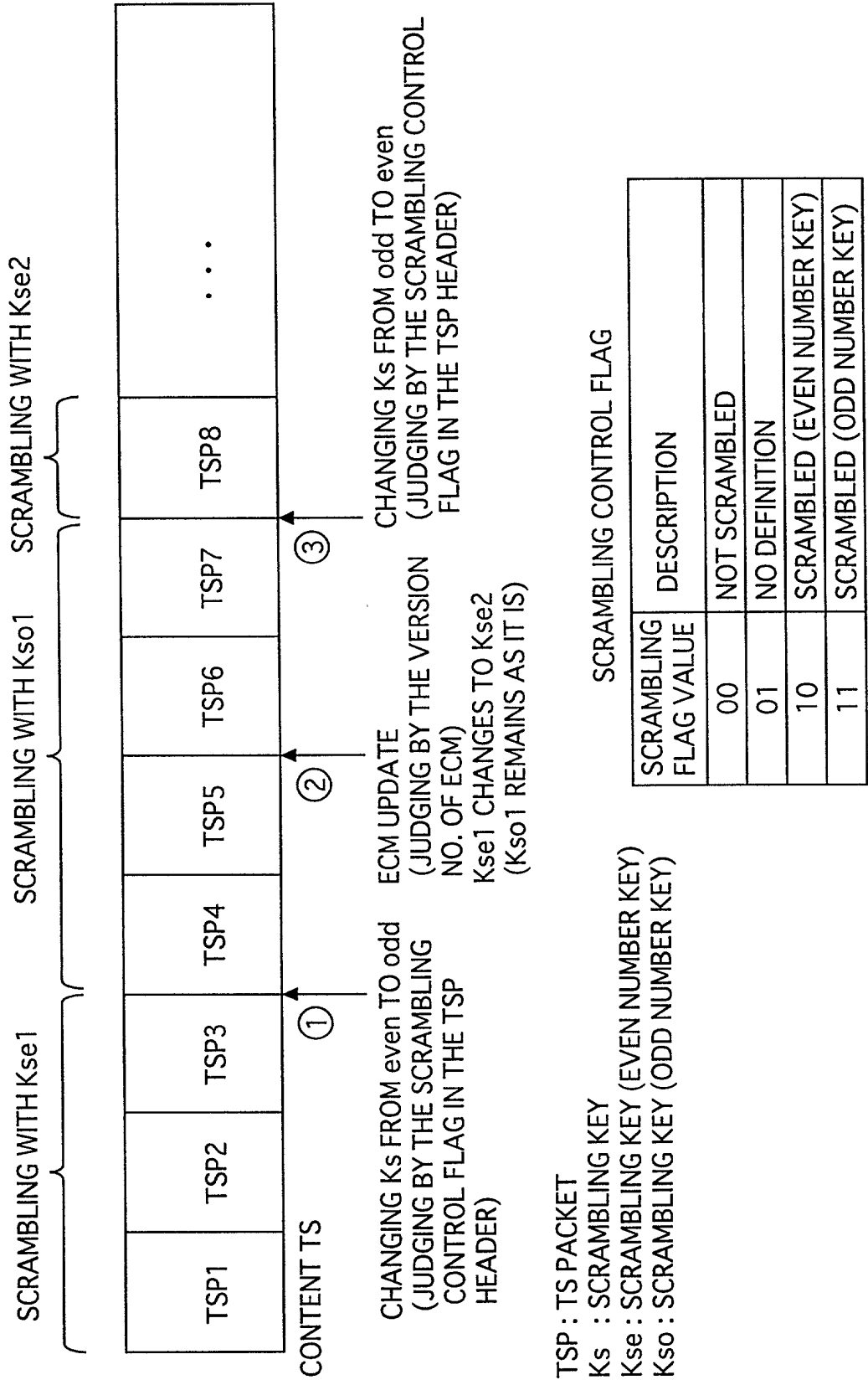


FIG. 40

SCRAMBLING KEY LIST AT THE TIMING OF ① IN FIG. 39

Ks_id	1
TS_packet_number	<u>3</u>
Ks	Kse 1
Ks_id	2
TS_packet_number	<u>Kso 1</u>
Ks	

UNDERLINED INFORMATION IS ADDED.

SCRAMBLING KEY LIST AT THE TIMING OF ③ IN FIG. 39

Ks_id	1
TS_packet_number	3
Ks	Kse 1
Ks_id	2
TS_packet_number	<u>4</u>
Ks	<u>Kso 1</u>
Ks_id	3
TS_packet_number	
Ks	<u>Kse 2</u>

AT THE TIMING OF ② IN FIG. 39, THE SCRAMBLING KEY LIST IS NOT UPDATED, BUT STORED ECM CHANGES AS FOLLOWS.

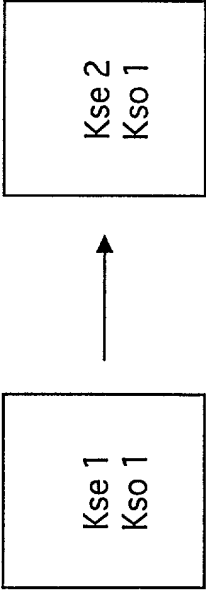


FIG. 41

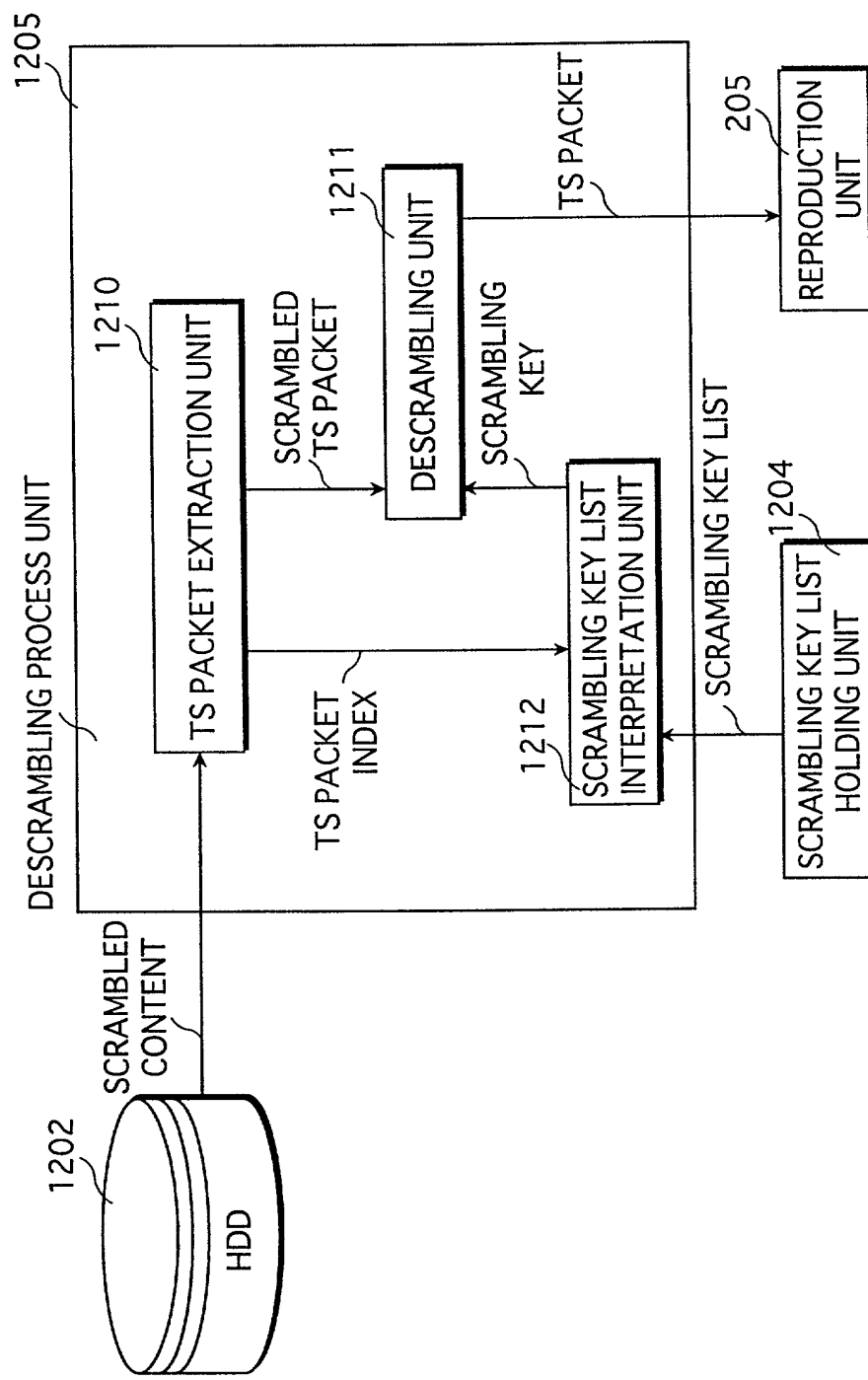


FIG. 42

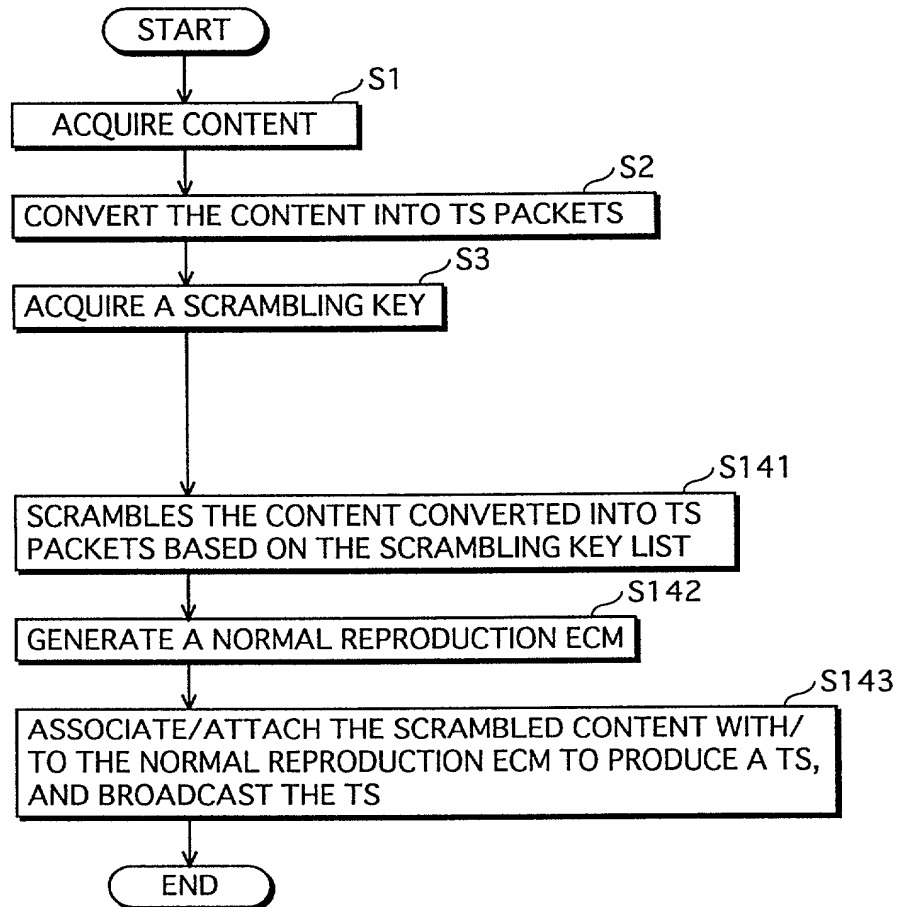


FIG. 43

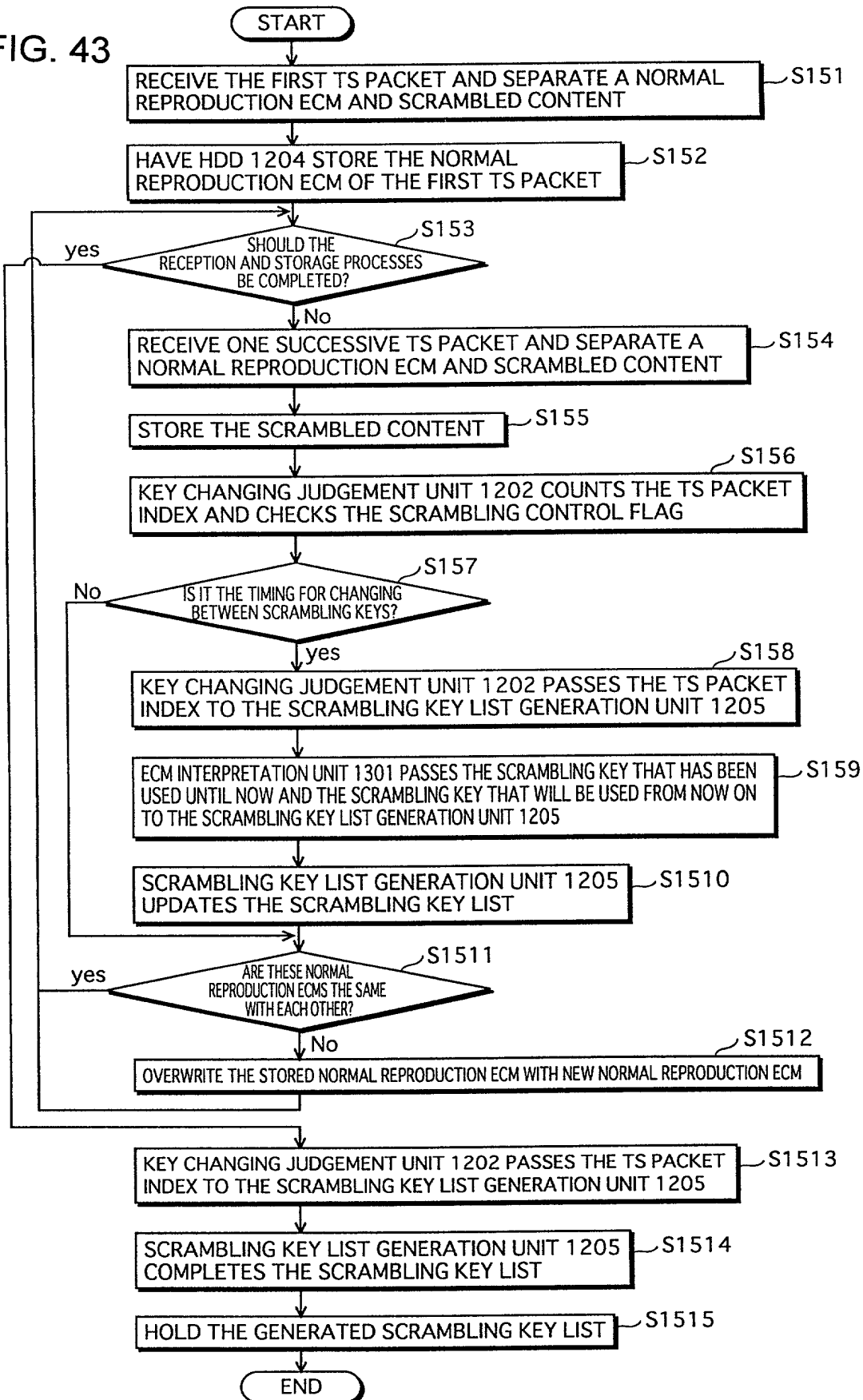


FIG. 44

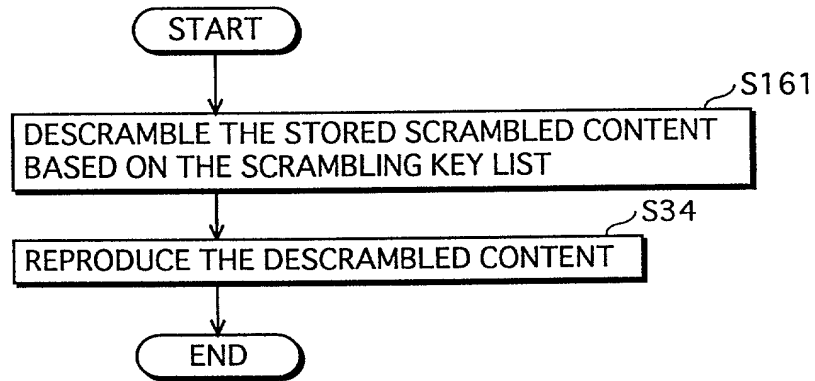


FIG. 45

